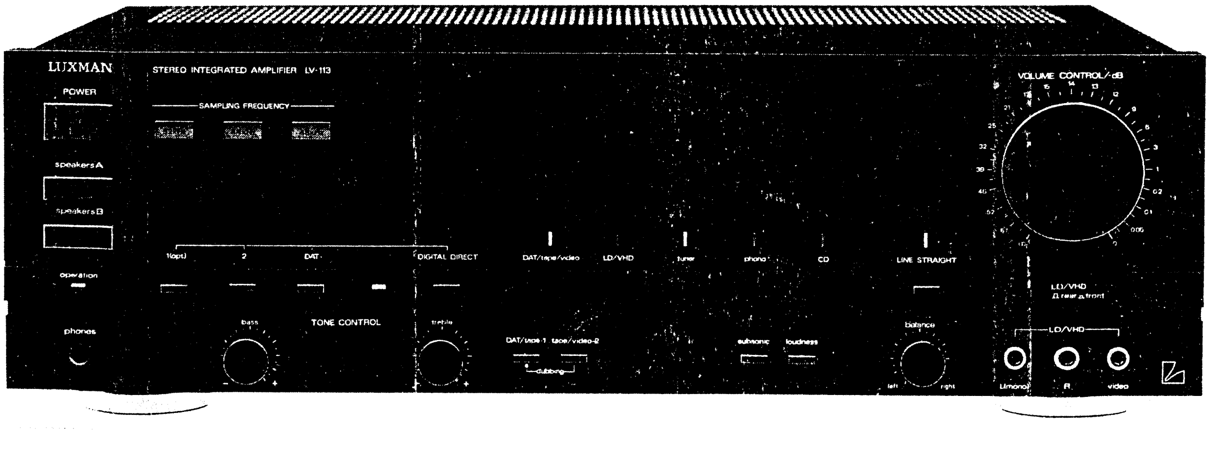
SERVICE MANUAL

Stereo Integrated Amplifier

LV-113


LUXMAN
STEREO INTEGRATED AMPLIFIER LV-113
POWER
SAMPLING FREQUENCY
speakers A
speakers B
operation
phones
bass
TONE CONTROL
treble
DIGITAL DIRECT
DAT/tape/video
LD/VHD
tuner
phono
CD
LINE STRAIGHT
DAT/tape-1 tape/video-2
dubbing
subsonic
loudness
balance
left
right
VOLUME CONTROL/dB
LD/VHD
L(mono)
R
video

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Specifications

Power Output	65W (20Hz~20kHz)
Headphones Output	(65W/8 ohms, 1kHz) : 800mV±50%
Input Sensitivity (1kHz)	DAT/Tape-1, VCR/Tape-2 : 150mV±20% Phono (MM) : 2.5mV±0.5%
Input Impedance (1kHz)	DAT/Tape-1, VCR/Tape-2 : 40k ohm±5% Phono (MM) : 47k ohm±5%
Frequency Response	DAT/Tape-1, VCR/Tape-2 : (10Hz~100kHz) +0.6−5dB CD, Tuner, F.R.LD/VHD (LS ON) : (10Hz~100kHz) +0.6−3dB Phono (MM) : (100Hz) 13.09±1dB Phono (MM) : (10kHz) −13.74±1dB
Loudness Control (VR−30dB)	(100Hz) 6±2dB (10kHz) 4±2dB
Tone Controls	Bass : (100Hz) ±10±3dB Treble : (10kHz) ±10±3dB
S/N Ratio (In Put Terminals Shorted)	CD, Tuner, F.R.LD/VHD (LS ON) : 83.6dB DAT/Tape-1, VCR/Tape-2 : 77.6dB Phono (MM) (SUB F ON) : 65.6dB
Cross Talk (10kHz)	CD, Tuner, F.R.LD/VHD (LS ON) : 40dB
Residual Noise	1.2mV
Power Supply	120/220/240V, 50Hz (AD Model Only) 120V, 60Hz (UZ/UQ Model Only) 100V, 50/60Hz (JA Model Only)
Dimension	438 (W) ×137 (H) ×382 (D) mm
Weight	9.8kg
Semiconductors	49 Diodes, 4 Zener Diodes 33 Transistors, 2 Bridge Diodes 25 IC's (JA/UZ), 24 IC's (AD)

Note : Due to continuing product improvement, specifications and design are subject to change without notice.

Parts Locations

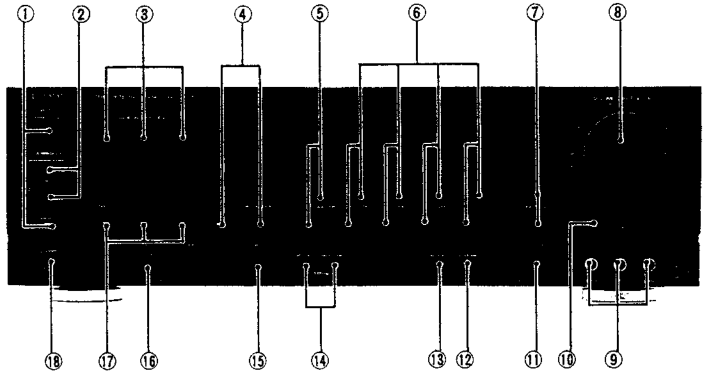


Figure 1
<2図>

1. POWER Button and Indicator
2. SPEAKERS A and B Buttons
3. SAMPLING FREQUENCY Indicators
4. DIGITAL DIRECT Button and Indicator
5. MONITOR (DAT/Tape/Video) Button and Indicator
6. INPUT SELECTOR Buttons and Indicators
7. LINE STRAIGHT Button and Indicator
8. VOLUME Control
9. LD/VHD FRONT Input Jacks
10. FRONT/REAR Button
11. BALANCE Control
12. LOUDNESS Button
13. SUBSONIC Filter Button
14. DAT/TAPE-1 and TAPE/VIDEO-2 Buttons
15. TREBLE Control
16. BASS Control
17. DIGITAL DIRECT 1 (OPT.), 2 and DAT Selector Buttons
18. PHONES Jack

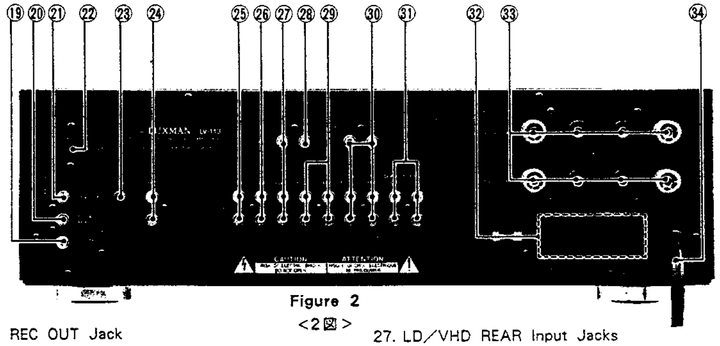


Figure 2
<2図>

19. DIGITAL REC OUT Jack
20. DIGITAL NONI Jack
21. DIGITAL IN-2 Jack
22. DIGITAL IN-1 (OPT.) Jack
23. GND Terminal
24. PHONO Jacks
25. CD Jacks
26. TUNER Jacks
27. LD/VHD REAR Input Jacks
28. VIDEO MONITOR Jack
29. DAT/TAPE-1 REC OUT and MONI Jacks
30. TAPE/VIDEO-2 Jacks
31. SIGNAL PROCESSOR IN and OUT Jacks
32. AC Outlets
33. SPEAKER Terminals
34. AC POWER CORD

Disassembly Instructions

1. Removal of Bracket Shield DAC

(1) After removal of the top cover, remove four screws marked "○" as shown in Figure 3 and 5.

1. ブラケットシールドDACの外し方

(1) 上カバーを外した後、4本のネジ（○印）を外します。（3、5図参照）

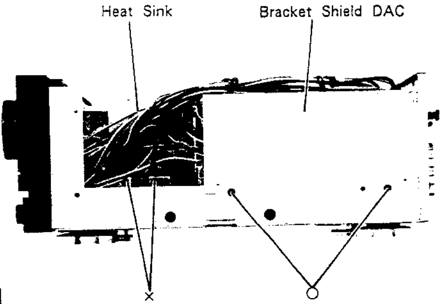


Figure 3
<3図>

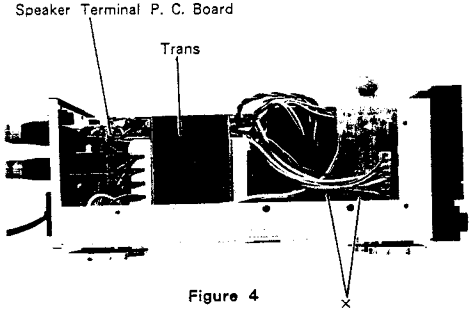


Figure 4
<4図>

2. Removal of Main P. C. Board

(1) After removal of Bracket Shield DAC remove eleven screws marked "×" as shown in Figure 3, 4, 5 and 6.

(2) Disconnect all wires from the Main P. C. Board and the P. C. Board with heatsink can be removed completely.

2. メイン基板の外し方

(1) ブラケット・シールドDACを外してから、11本のネジ（×印）を外します。（3、4、5、6図参照）

(2) メイン基板から出ている全てのワイヤーを外しますとヒートシンクと一緒にメイン基板を外すことができます。

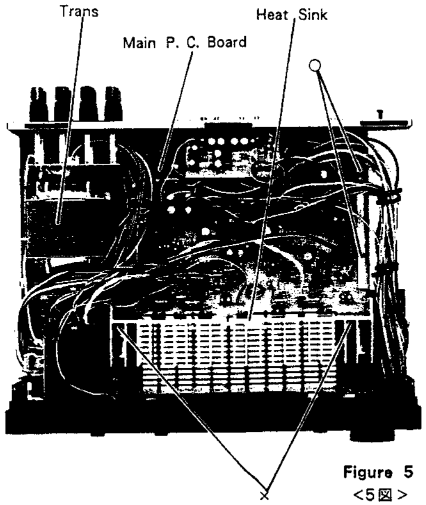


Figure 5
<5図>

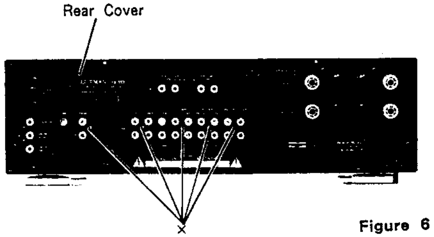


Figure 6
<6図>

Adjustment Procedures

1. Connections

1. 接続図

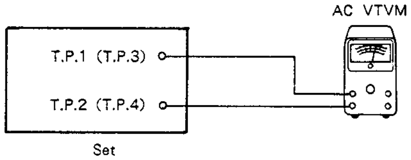


Figure 7
<7図>

2. Control Setting

Power Switch ············ ON
Speaker Switch ············ A Position
Others ············ OFF
Volume Control ············ Maximum
Treble／Bass／Balance Control ············ Center

2. スイッチ類のセット位置

電源スイッチ ············ ON
スピーカー・スイッチ ············ A位置
その他のスイッチ ············ OFF
音量調整 ············ 最大
トレブル／バス／バランス調整 ············ 中央

3. Adjustment Procedures

(1) Idling Adjustment (Figure 7. Connections)

1. Set VR7101 (VR7102) to center.(⊖)
2. Adjust VR7101 (VR7102) so that voltage between T.P.1 (T.P.3) and T.P.2 (T.P.4) reaches 5±30mV.

Note : Proceed the adjustment shown above about a minute after power is tunered on.

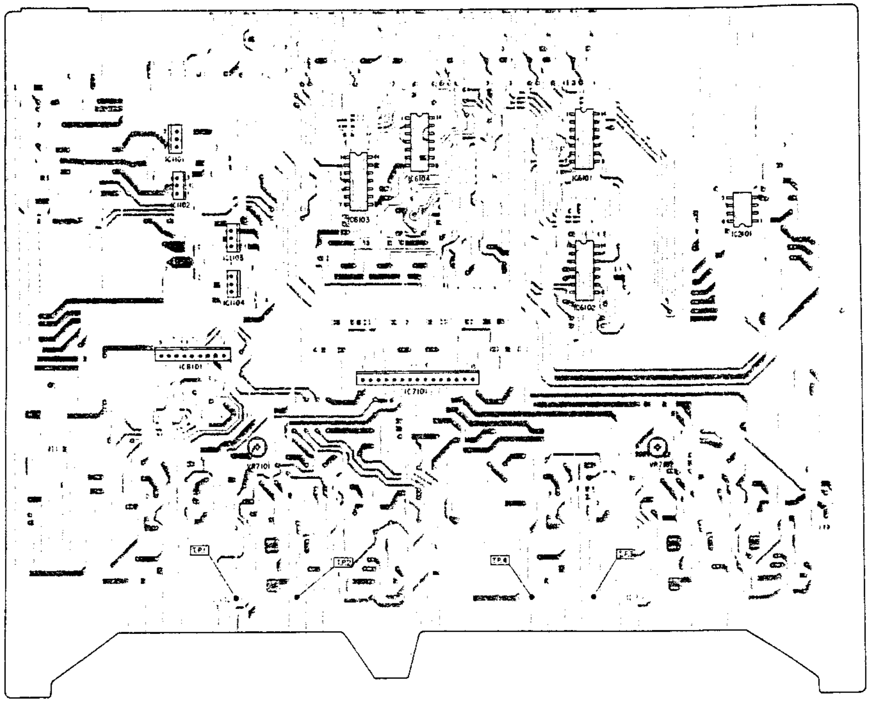
3. 調整方法

(1) アイドリング調整（7図接続図参照）

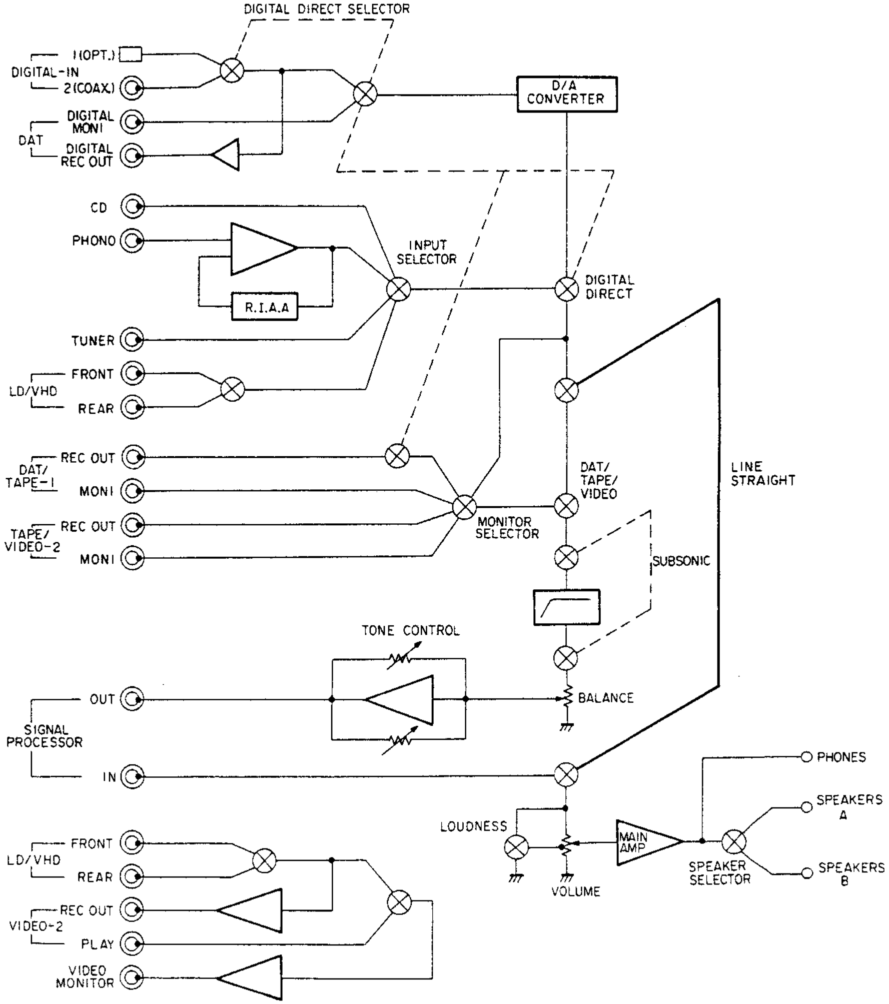
1. VR7101（VR7102）を中央にセットする。（ ⊖ ）
2. VR7101（VR7102）を調整して、T.P.1（T.P.3）とT.P.2（T.P.4）間の電圧が5±30mVになるようにする。

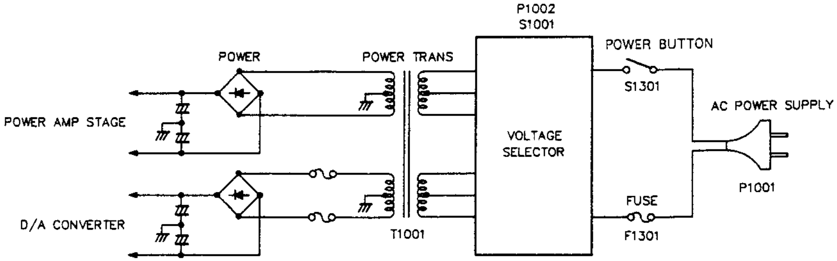
注意： 電源を入れて約1分位経ってから上記の調整を行います。

Adjustment Locations

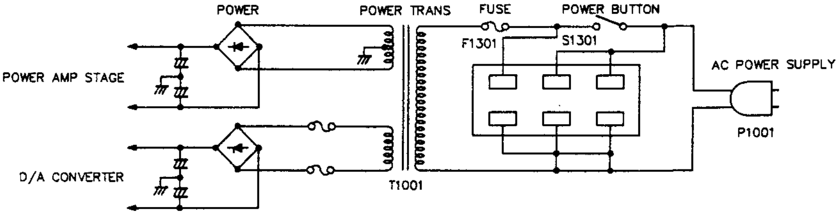

IC1101
IC1102
IC1103
IC1104
IC6103
IC6104
IC6102
IC8101
IC7101
VR7101
VR7201
TP1
TP2
TP4
TP3

Block Diagram


DIGITAL DIRECT SELECTOR
DIGITAL-IN
1(OPT.)
2(COAX.)
DAT
DIGITAL MONI
DIGITAL REC OUT
D/A CONVERTER
CD
PHONO
R.I.A.A
INPUT SELECTOR
DIGITAL DIRECT
TUNER
LD/VHD
FRONT
REAR
DAT/TAPE-1
REC OUT
MONI
TAPE/VIDEO-2
REC OUT
MONI
MONITOR SELECTOR
DAT/TAPE/VIDEO
LINE STRAIGHT
SUBSONIC
TONE CONTROL
BALANCE
SIGNAL PROCESSOR
OUT
IN
PHONES
SPEAKERS A
SPEAKERS B
LOUDNESS
VOLUME
MAIN AMP
SPEAKER SELECTOR
LD/VHD
FRONT
REAR
VIDEO-2
REC OUT
PLAY
VIDEO MONITOR

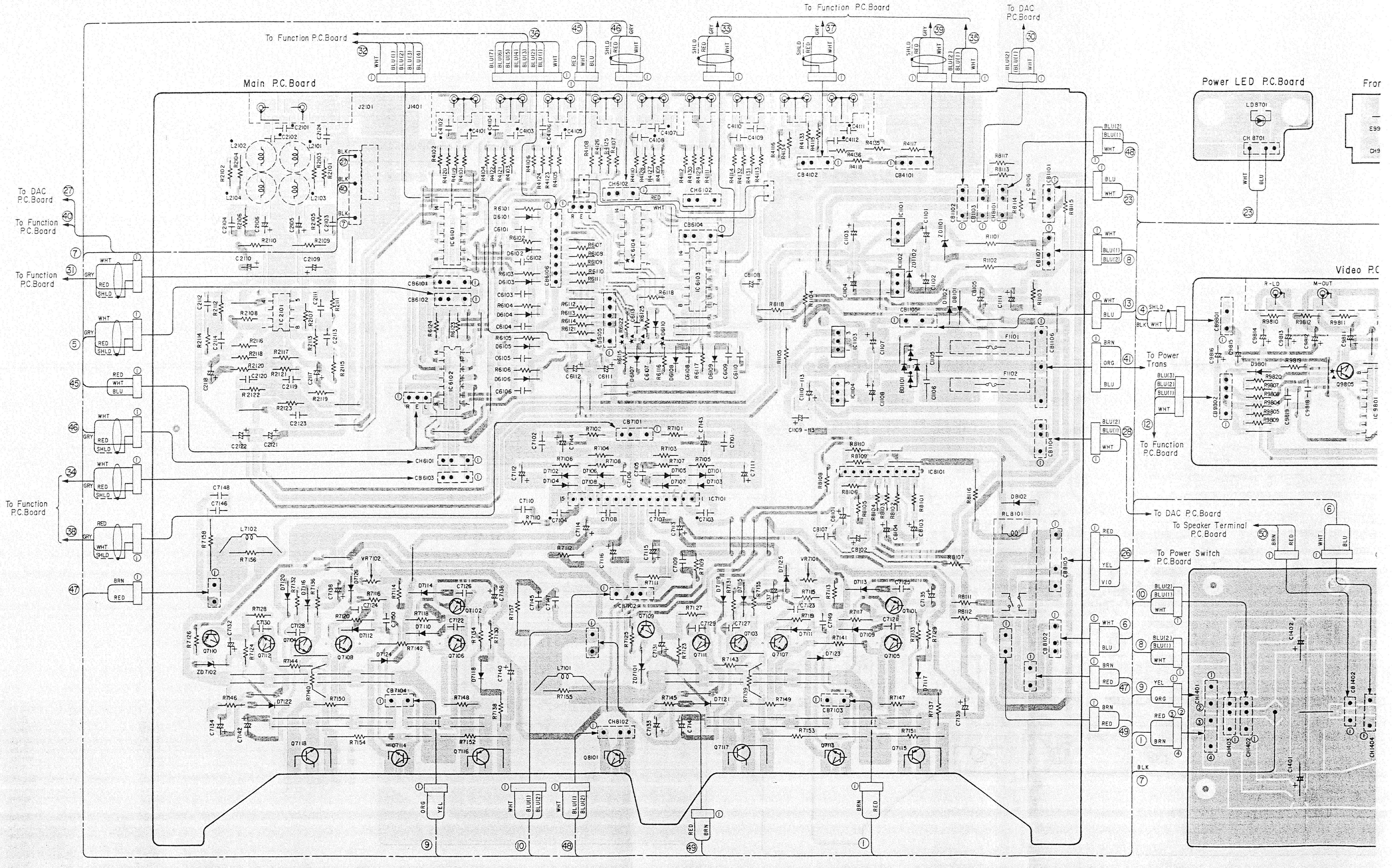

P1002
S1001
POWER BUTTON
POWER
POWER TRANS
S1301
AC POWER SUPPLY
POWER AMP STAGE
VOLTAGE
SELECTOR
P1001
FUSE
D/A CONVERTER
T1001
F1301

AD model only

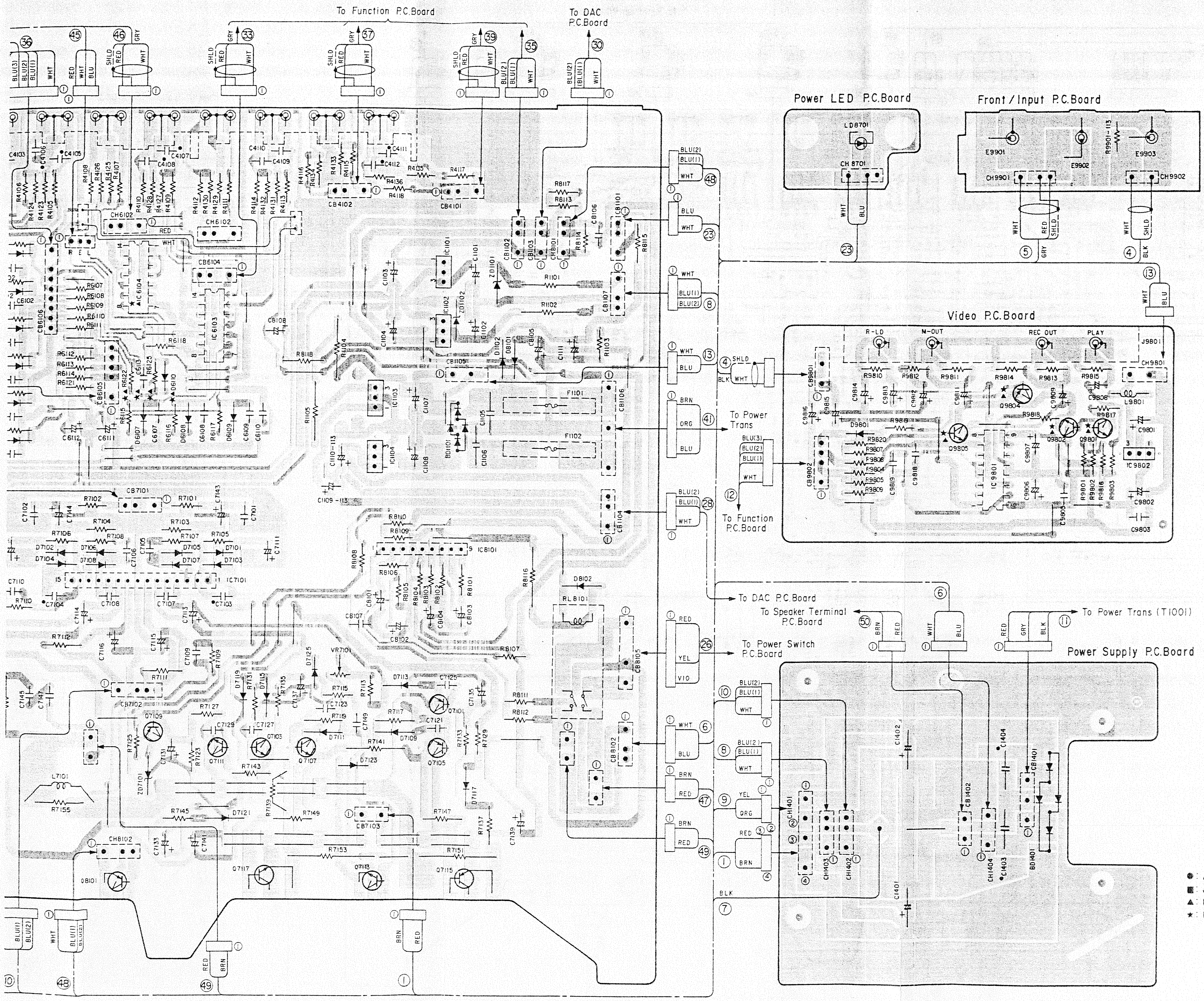

POWER
POWER TRANS
FUSE
POWER BUTTON
F1301
S1301
AC POWER SUPPLY
POWER AMP STAGE
P1001
D/A CONVERTER
T1001

JA, UZ, UQ model

Parts Layout on P.C. Boards and Wiring Diagram (1/2)


To Function P.C.Board
To DAC P.C.Board
Main P.C.Board
Power LED P.C.Board
Video P.C
Fror
To DAC P.C.Board
To Function P.C.Board
To Function P.C.Board
To Function P.C.Board
To Power Trans
To Function P.C.Board
To DAC P.C.Board
To Speaker Terminal P.C.Board
To Power Switch P.C.Board
J2101
J1401
IC6101
IC6102
IC6103
IC6104
IC2101
IC7101
IC8101
IC1101
IC1102
IC1103
IC1104
IC9801
LD8701
CH8701
RL8101
F1101
F1102
L7101
L7102
VR7101
VR7102
R-LD
M-OUT
WHT
GRY
RED
SHLD
BLU
BRN
ORG
YEL
VIO
BLK

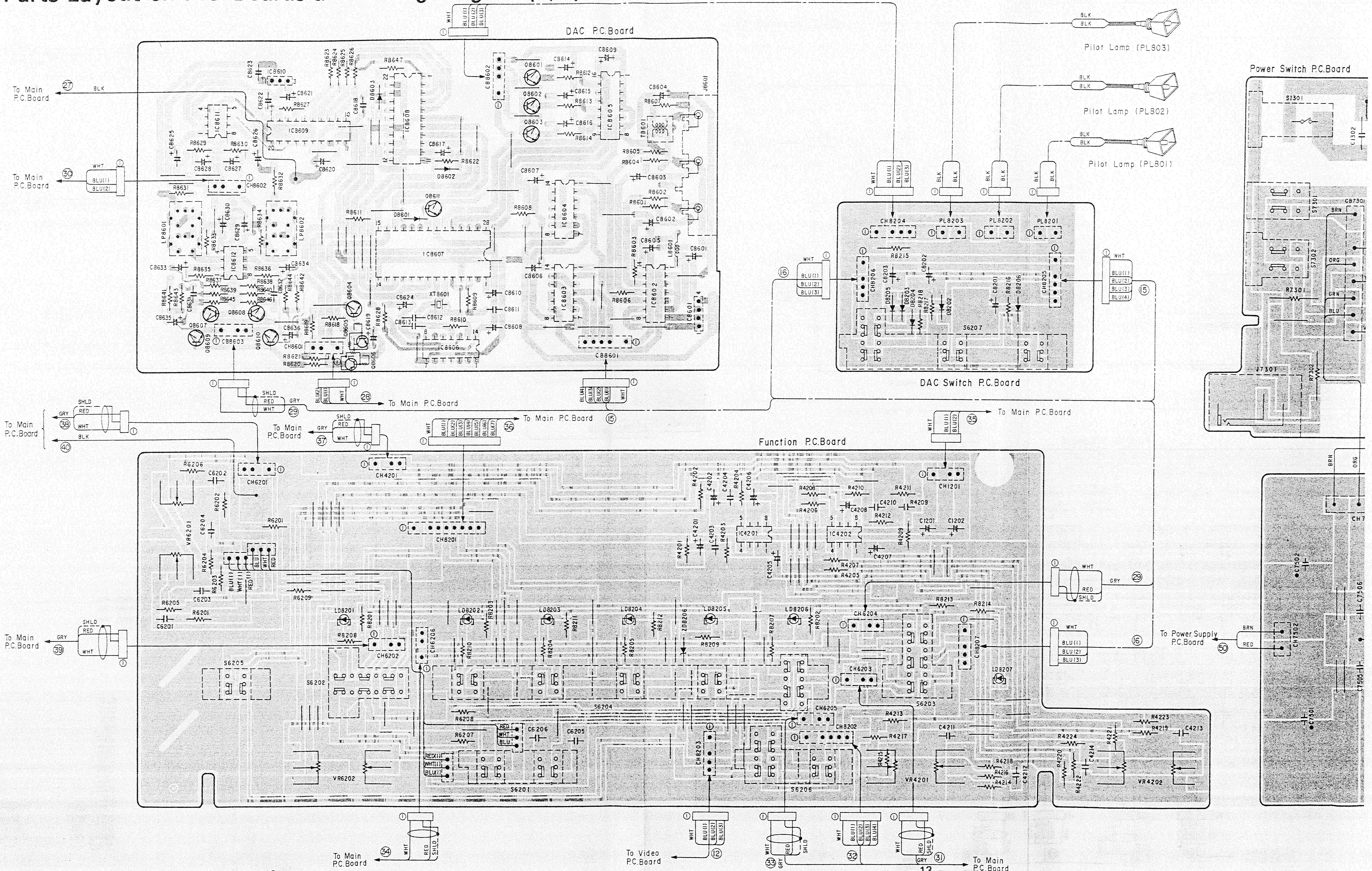
2)


To Function P.C.Board
To DAC P.C.Board
Power LED P.C.Board
LD8701
CH8701
Front/Input P.C.Board
E9901
E9902
E9903
R9901-113
CH9901
CH9902
Video P.C.Board
R-LD
M-OUT
REC OUT
PLAY
J9801
CH9801
IC9801
IC9802
Q9801
Q9802
Q9804
Q9805
To Power Trans
To Function P.C.Board
To DAC P.C.Board
To Speaker Terminal P.C.Board
To Power Switch P.C.Board
To Power Trans (T1001)
Power Supply P.C.Board
CB1401
CB1402
CH1401
CH1402
CH1403
CH1404
C1401
C1402
C1403
C1404
BD1401
CB4101
CB4102
CH6102
CB6104
IC6103
IC6104
CB6105
CB6106
CB1101
CB1102
CB1103
CB1104
CB1105
CB1106
CB1107
CH8101
IC1101
IC1102
IC1103
IC1104
F1101
F1102
BD1101
CB7101
CB7102
CB7103
IC7101
IC8101
RL8101
CB8102
CB8105
CH8102
VR7101
L7101
Q7101
Q7103
Q7105
Q7107
Q7109
Q7111
Q7113
Q7115
Q7117
BLU
BLU(1)
BLU(2)
BLU(3)
WHT
RED
GRY
SHLD
BRN
ORG
YEL
VIO
BLK

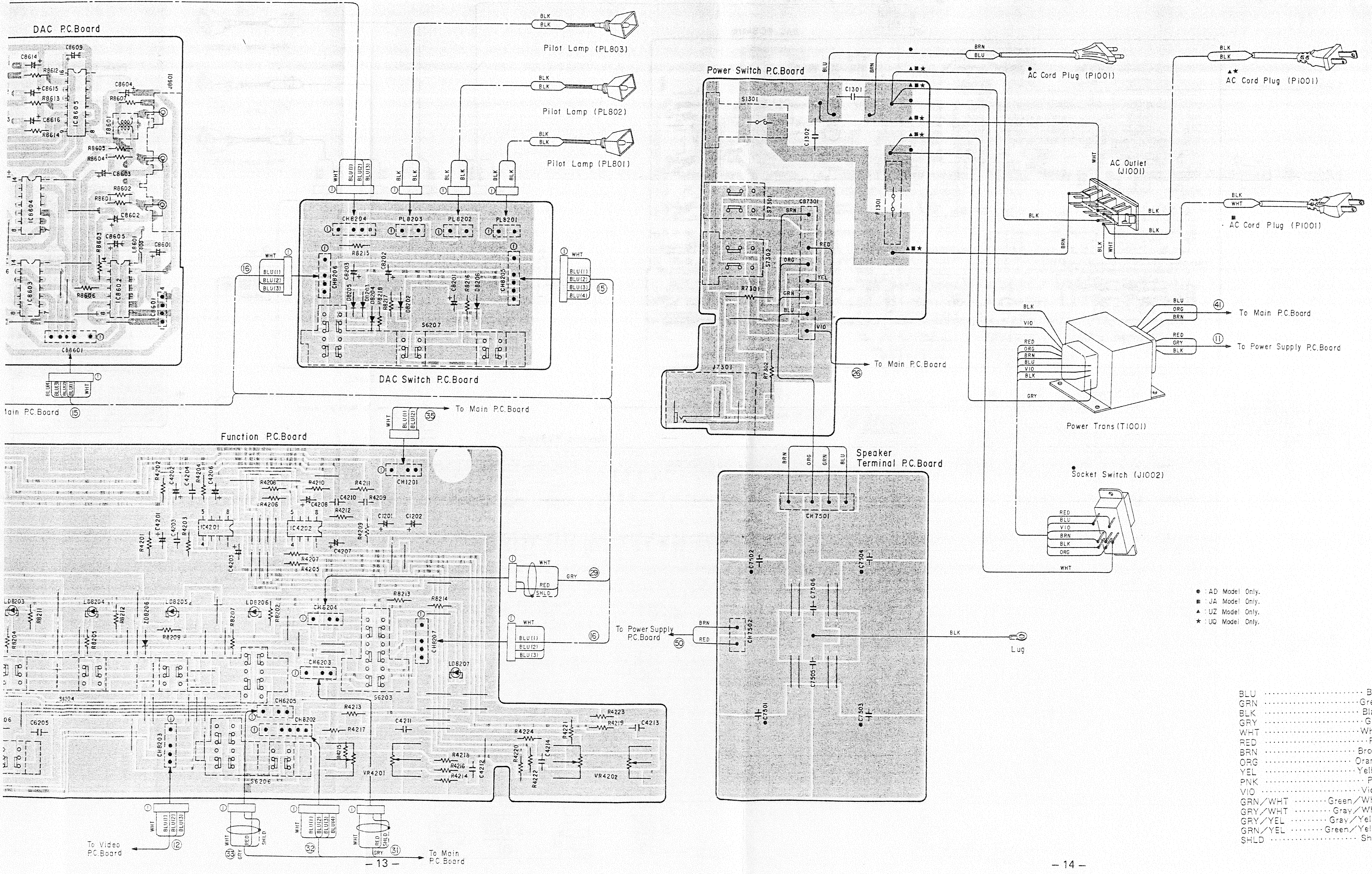
BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
PNK	Pink
VIO	Violet
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD	Shield

●: AD Model Only.
■: JA Model Only.
▲: UZ Model Only.
★: UQ Model Only.

Parts Layout on P.C. Boards and Wiring Diagram (2/2)


DAC P.C.Board
DAC Switch P.C.Board
Function P.C.Board
Power Switch P.C.Board
Pilot Lamp (PL803)
Pilot Lamp (PL802)
Pilot Lamp (PL801)
To Main P.C.Board
To Video P.C.Board
To Power Supply P.C.Board
IC8601
IC8602
IC8603
IC8604
IC8605
IC8606
IC8607
IC8608
IC8609
IC8610
IC8611
IC8612
IC4201
IC4202
CH8201
CH8202
CH8203
CH8204
CH8205
CH8206
CH8207
CH6201
CH6202
CH6203
CH6204
CH6205
CH6206
CH4201
CH1201
CH8601
CH8602
CH8603
CB8601
CB8602
CB8603
PL8201
PL8202
PL8203
S6201
S6202
S6203
S6204
S6205
S6206
S6207
S1301
S7301
S7302
J7301
J8601
VR6201
VR6202
VR4201
VR4202
XT8601
LP8601
LP8602
T8601
L8601
LD8201
LD8202
LD8203
LD8204
LD8205
LD8206
LD8207
ZD8206
BLK
WHT
GRY
RED
SHLD
BRN
ORG
GRN
BLU
BLU(1)
BLU(2)
BLU(3)
BLU(4)
BLU(5)
BLU(6)
BLU(7)
BLK(1)
BLK(2)
WHT(1)
RED(1)
①
⑫
⑮
⑯
㉗
㉘
㉙
㉚
㉛
㉜
㉝
㉞
㉟
㊱
㊲
㊴
㊵
(50)

2/2)

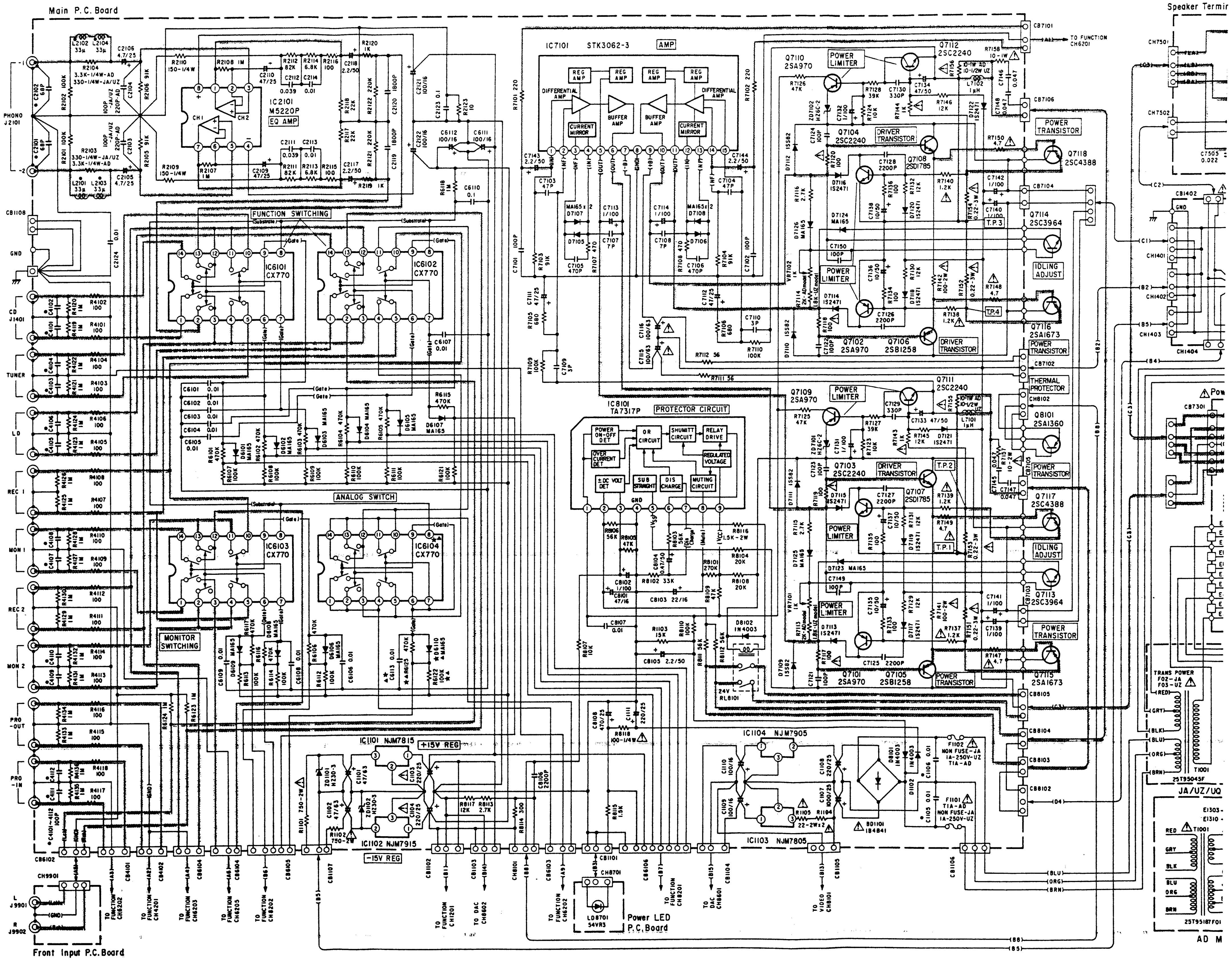

DAC P.C.Board
Pilot Lamp (PL803)
Pilot Lamp (PL802)
Pilot Lamp (PL801)
DAC Switch P.C.Board
To Main P.C.Board
Function P.C.Board
To Video P.C.Board
To Main P.C.Board
To Power Supply P.C.Board
Power Switch P.C.Board
AC Cord Plug (P1001)
AC Cord Plug (P1001)
AC Cord Plug (P1001)
AC Outlet (J1001)
To Main P.C.Board
To Main P.C.Board
To Power Supply P.C.Board
Power Trans (T1001)
Socket Switch (J1002)
Speaker Terminal P.C.Board
Lug
IC8605
IC8604
IC8603
IC8602
IC4201
IC4202
S6207
S6204
S6203
S6206
S1301
S7301
S7302
J7301
F1301
CH7501
CH7502
VR4201
VR4202

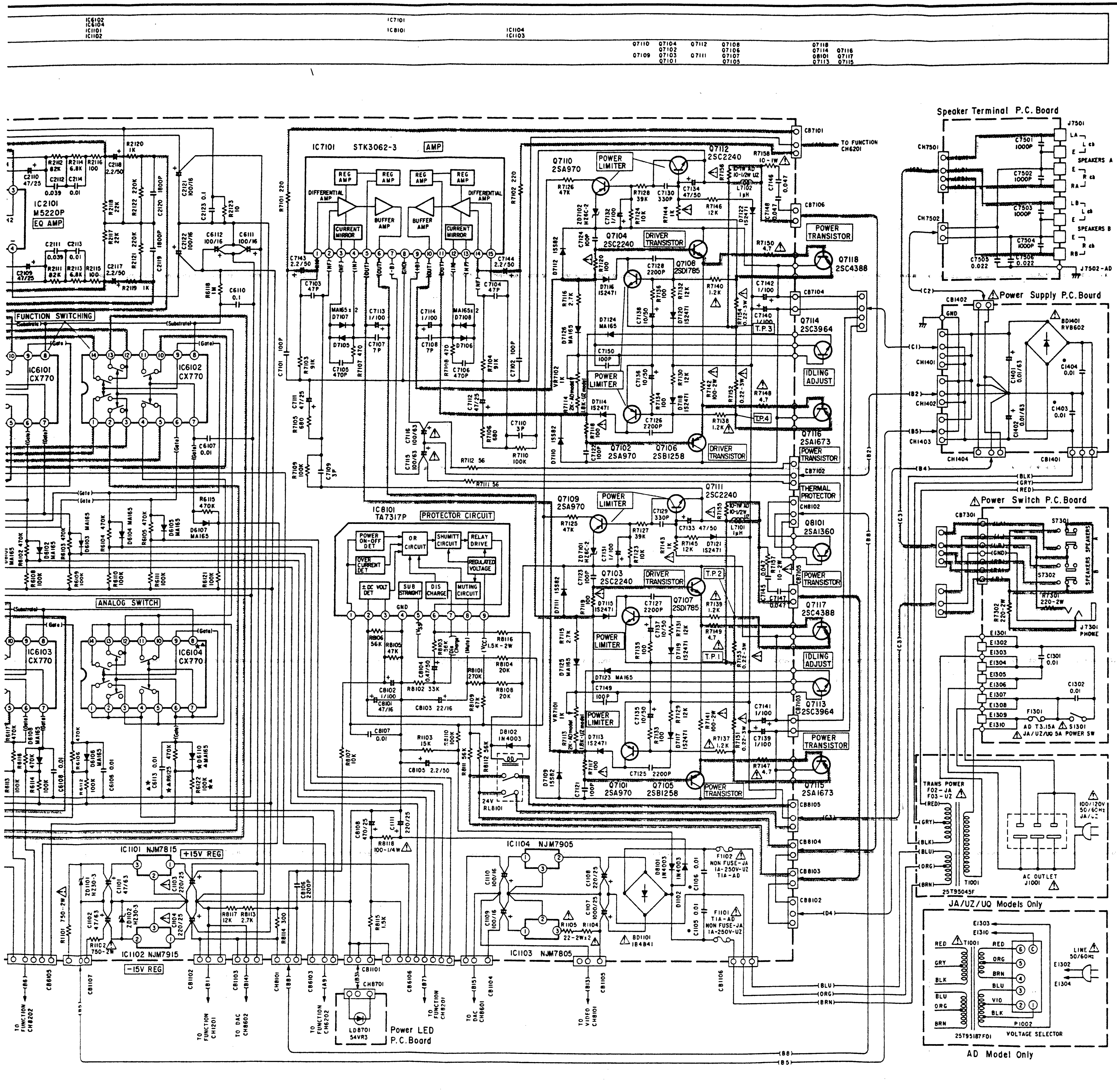
● : AD Model Only.
■ : JA Model Only.
▲ : UZ Model Only.
★ : UQ Model Only.

BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
PNK	Pink
VIO	Violet
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD	Shield

Schematic Diagram (1/2)

IC	IC2101 IC6101 IC6103	IC6102 IC6104 IC1101 IC1102	IC7101 IC8101	IC1104 IC1103						
Transistor (Q)					Q7110 Q7109	Q7104 Q7102 Q7103 Q7101	Q7112 Q7111	Q7108 Q7106 Q7107 Q7105	Q7118 Q7114 Q8101 Q7113	Q7116 Q7117 Q7115


Main P.C. Board
PHONO J2101
CD J1401
TUNER
LD
REC 1
MON 1
REC 2
MON 2
PRO -OUT
PRO -IN
IC2101 M5220P
EQ AMP
FUNCTION SWITCHING
IC6101 CX770
IC6102 CX770
ANALOG SWITCH
IC6103 CX770
IC6104 CX770
MONITOR SWITCHING
IC7101 STK3062-3
AMP
REG AMP
DIFFERENTIAL AMP
CURRENT MIRROR
BUFFER AMP
IC8101 TA7317P
PROTECTOR CIRCUIT
POWER ON-OFF DET
OVER CURRENT DET
OR CIRCUIT
SHUMITT CIRCUIT
RELAY DRIVE
REGULATED VOLTAGE
± DC VOLT DET
SUB STRAIGHT
DIS CHARGE
MUTING CIRCUIT
IC1101 NJM7815
+15V REG
IC1102 NJM7915
-15V REG
IC1104 NJM7905
IC1103 NJM7805
Q7110 2SA970
POWER LIMITER
Q7112 2SC2240
Q7104 2SC2240
DRIVER TRANSISTOR
Q7108 2SD1785
Q7118 2SC4388
POWER TRANSISTOR
Q7114 2SC3964
IDLING ADJUST
Q7116 2SA1673
Q7102 2SA970
Q7106 2SB1258
Q7109 2SA970
Q7111 2SC2240
THERMAL PROTECTOR
Q8101 2SA1360
Q7103 2SC2240
Q7107 2SD1785
Q7117 2SC4388
Q7113 2SC3964
Q7101 2SA970
Q7105 2SB1258
Q7115 2SA1673
T.P.1
T.P.2
T.P.3
T.P.4
RL8101
Front Input P.C.Board
J9901
J9902
Power LED P.C.Board
LD8701 SLV4R3
Speaker Termir
TRANS POWER
JA/UZ/UQ
AD M


IC7101 STK3062-3 AMP
IC8101 TA7317P PROTECTOR CIRCUIT
IC2101 M5220P EQ AMP
FUNCTION SWITCHING
ANALOG SWITCH
IC6101 CX770
IC6102 CX770
IC6103 CX770
IC6104 CX770
IC1101 NJM7815 +15V REG
IC1102 NJM7915 -15V REG
IC1104 NJM7905
IC1103 NJM7805
Speaker Terminal P.C. Board
SPEAKERS A
SPEAKERS B
Power Supply P.C.Bourd
Power Switch P.C.Board
Power LED P.C.Board
JA/UZ/UQ Models Only
AD Model Only
VOLTAGE SELECTOR
POWER TRANSISTOR
DRIVER TRANSISTOR
POWER LIMITER
IDLING ADJUST
THERMAL PROTECTOR
AC OUTLET
TO FUNCTION CH6201

	E	C	B
Q7101	0V	-1.4V	0V
Q7102	0V	-1.4V	0V
Q7103	0V	1.4V	0V
Q7104	0V	1.4V	
Q7105	-0.6V	-51V	-1.5V
Q7106	-0.6V	-51V	-1.5V
Q7107	0.6V	-51V	-1.5V
Q7108	0.6V	-51V	-1.5V
Q7109	45V	-0.6V	49V
Q7110	4.5V	0.6V	49V
Q7111	0V	49V	0V
Q7112	0V	49V	0V
Q7113	-0.9V	1.5V	-0.3V
Q7114	-0.9V	1.5V	-0.3V
Q7115	0V	-51V	0V
Q7116	0V	-51V	0V
Q7117	0V	-51V	0V
Q7118	0V	-51V	0V
Q8101	15V	7.1V	14.8V

IC1101

1	15V
2	0V
3	31V

IC1102

1	-15V
2	-31V
3	0V

IC1103

1	5V
2	0V
3	20V

IC1104

1	-5V
2	-20V
3	0V

IC1201

1	0V
2	0V
3	0V
4	-15V
5	0V
6	0V
7	0V
8	15V

IC6102

1	0V
2	0V
3	0V
4	0V
5	0V
6	-15V
7	14V
8	-15V
9	-15V
10	0V
11	0V
12	0V
13	0V
14	0V

IC6103

1	0V
2	0V
3	0V
4	0V
5	0V
6	-15V
7	-15V
8	-15V
9	-15V
10	0V
11	0V
12	0V
13	0V
14	0V

IC6104

1	0V
2	0V
3	0V
4	0V
5	0V
6	-15V
7	-15V
8	-15V
9	-15V
10	0V
11	0V
12	0V
13	0V
14	0V

IC7101

1	0V
2	0V
3	47V
4	47V
5	-1.5V
6	1.5V
7	-50V
8	
9	50V
10	1.5V
11	-1.5V
12	47V
13	47V
14	0V
15	0V

IC8101

1	-0.6V
2	7mV
3	5mV
4	2.7mV
5	-0.7V
6	0.9V
7	2.7mV
8	1.3V
9	3.1V

IC6101

1	-7mV
2	0V
3	-7mV
4	0V
5	0V
6	-15V
7	-15V
8	-15V
9	14V
10	0V
11	0V
12	0V
13	0V
14	0V

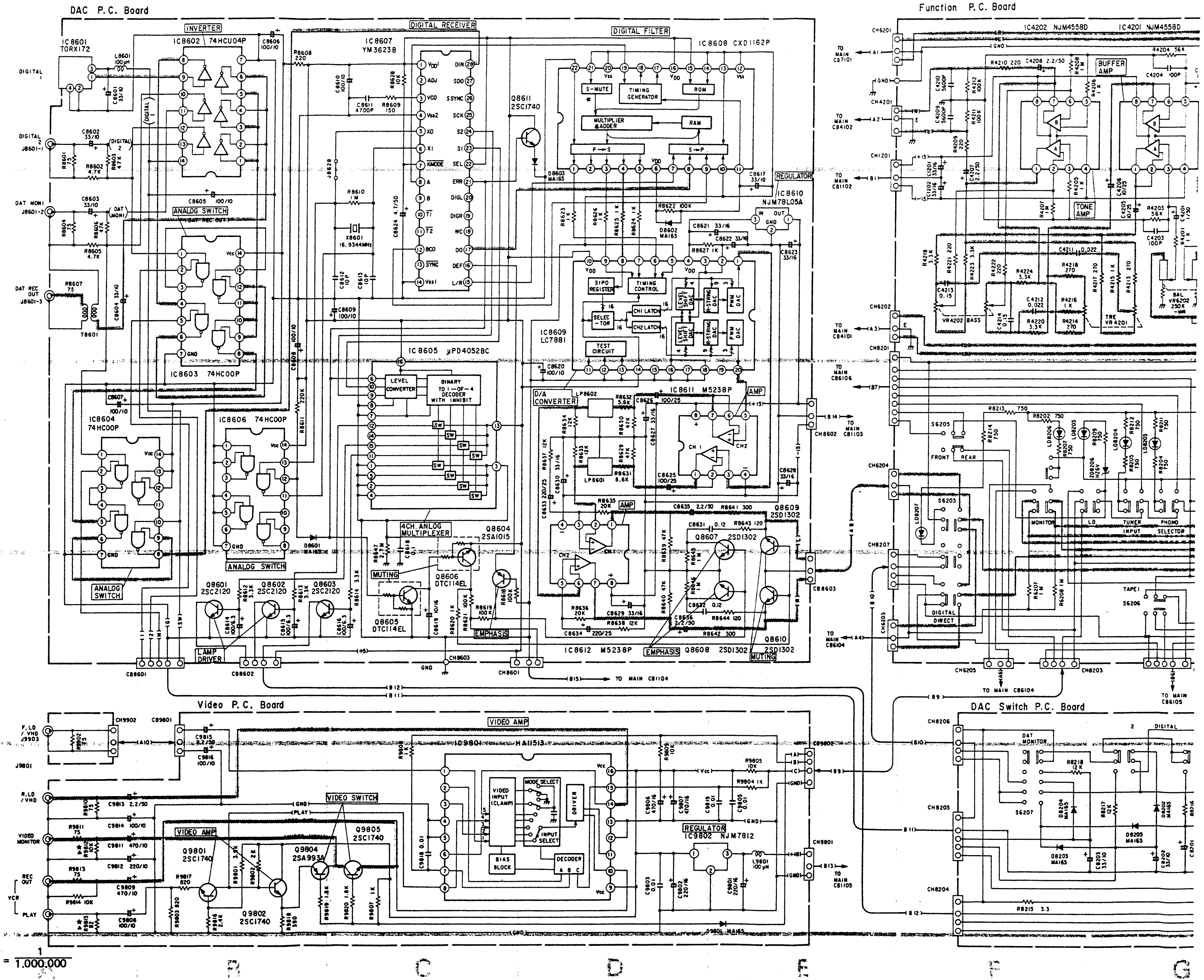
CAUTION:
The ⚠ marks in the schematic diagram designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

NOTES:
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

LV-113

Schematic Diagram (2/2)

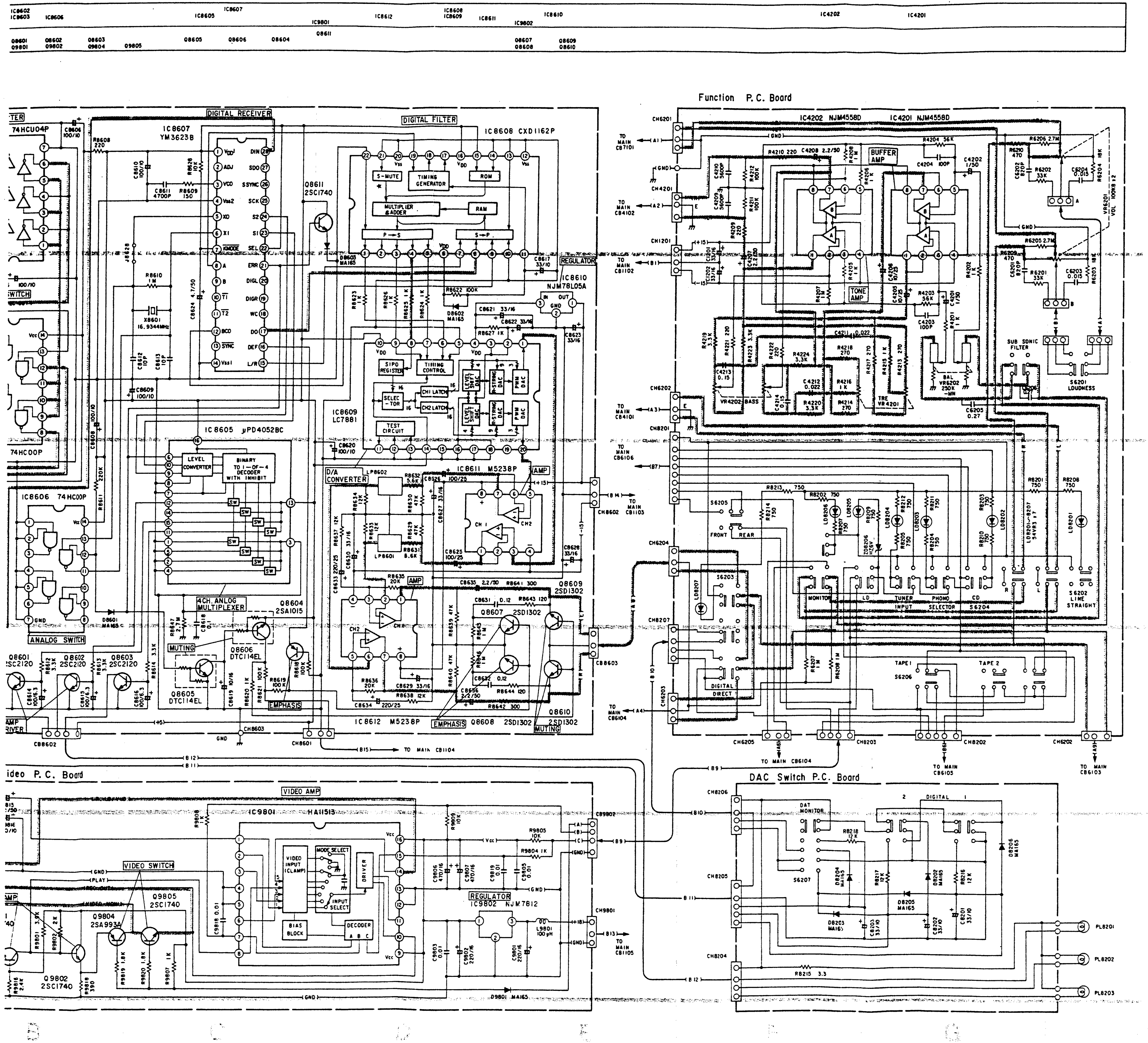
IC	IC8601 IC8604 IC8602 IC8603 IC8606 IC8605 IC8607 IC9801 IC8612 IC8608 IC8609 IC8611 IC9802 IC8610 IC4202 IC4201
Transistor (Q)	Q8601 Q9801 Q8602 Q9802 Q8603 Q9804 Q9805 Q8605 Q8606 Q8604 Q8611 Q8607 Q8608 Q8609 Q8610


DAC P.C. Board
Function P.C. Board
Video P.C. Board
DAC Switch P.C. Board
INVERTER
DIGITAL RECEIVER
DIGITAL FILTER
IC8601 TORX172
IC8602 74HCU04P
IC8607 YM3623B
IC8608 CXD1162P
IC8603 74HC00P
IC8604 74HC00P
IC8606 74HC00P
IC8605 μPD4052BC
IC8609 LC7881
IC8610 NJM78L05A
IC8611 M5238P
IC8612 M5238P
IC4202 NJM4558D
IC4201 NJM4558D
IC9801 HA11513
IC9802 NJM7812
Q8611 2SC1740
Q8601 2SC2120
Q8602 2SC2120
Q8603 2SC2120
Q8604 2SA1015
Q8605 DTC114EL
Q8606 DTC114EL
Q8607 2SD1302
Q8608 2SD1302
Q8609 2SD1302
Q8610 2SD1302
Q9801 2SC1740
Q9802 2SC1740
Q9804 2SA993A
Q9805 2SC1740
ANALOG SWITCH
LEVEL CONVERTER
BINARY TO 1-OF-4 DECODER WITH INHIBIT
4CH ANALOG MULTIPLEXER
MUTING
EMPHASIS
LAMP DRIVER
D/A CONVERTER
AMP
REGULATOR
BUFFER AMP
TONE AMP
VIDEO AMP
VIDEO SWITCH
DIGITAL 1
DIGITAL 2 J8601-1
DAT MONI J8601-2
DAT REC OUT J8601-3
F.LD / VHD J9903
R.LD / VHD
VIDEO MONITOR
VCR REC OUT
PLAY
J9801
TO MAIN CB1104
TO MAIN CB6104
TO MAIN CB6105
FRONT
REAR
MONITOR
LD
TUNER
PHONO
INPUT SELECTOR
DIGITAL DIRECT
TAPE1
BASS VR4202
TRE VR4201
BAL VR6202
A
B
C
D
E
F
G

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1{,}000{,}000}$

LV-113


DIGITAL RECEIVER
IC8607 YM3623B
DIGITAL FILTER
IC8608 CXD1162P
IC8609 LC7881
IC8605 μPD4052BC
IC8606 74HC00P
74HCU04P
ANALOG SWITCH
4CH. ANALOG MULTIPLEXER
D/A CONVERTER
IC8611 M5238P
IC8612 M5238P
IC8610 NJM78L05A
REGULATOR
EMPHASIS
MUTING
AMP DRIVER
Function P.C. Board
IC4202 NJM4558D
IC4201 NJM4558D
BUFFER AMP
TONE AMP
SUB SONIC FILTER
S6201 LOUDNESS
S6202 LINE STRAIGHT
INPUT SELECTOR S6204
TAPE 1
TAPE 2
S6206
DIGITAL DIRECT
DAC Switch P.C. Board
Video P.C. Board
VIDEO AMP
IC9801 HA11513
VIDEO SWITCH
REGULATOR IC9802 NJM7812
Q9805 2SC1740
Q9804 2SA993A
Q9802 2SC1740
PL8201
PL8202
PL8203

	E	C	B
Q8601	0V	5V	0V
Q8602	0V	5V	0V
Q8603	0V	5V	0V
Q8604	0V	-5V	0V
Q8605	0V	0V	4.4V
Q8606	5V	5V	0V
Q8607	0V	0V	-4V
Q8608	0V	0V	-4V
Q8609	0V	0V	0.7V
Q8610	-5V	0V	0.7V
Q9801	3.9V	7.1V	4.5V
Q9802	6.5V	12V	7.1V
Q9804	8.1V	0.1V	8.1V
Q9805	0V	0.1V	0V

IC4201

1	0V
2	0V
3	0V
4	-15V
5	0V
6	0V
7	0V
8	15V

IC4202

1	0V
2	0V
3	0V
4	-15V
5	0V
6	0V
7	0V
8	15V

IC8601

1	0V
2	0V
3	
4	0V

IC8602

1	0V
2	0V
3	0V
4	0V
5	0V
6	0V
7	0V
8	0V
9	0V
10	0V
11	0V
12	0V
13	0V
14	0V

IC8603

1	0V
2	5V
3	5V
4	0V
5	0V
6	5V
7	0V
8	5V
9	0V
10	0V
11	0V
12	5V
13	5V
14	5V

IC8604

1	0V
2	0V
3	5V
4	5V
5	5V
6	0V
7	5V
8	0V
9	0V
10	0V
11	0V
12	5V
13	5V
14	5V

IC8605

1	0V
2	0V
3	0V
4	0V
5	0V
6	4.5V
7	0V
8	0V
9	5V
10	5V
11	0V
12	0V
13	5V
14	0V
15	0V
16	5V

IC8606

1	0V
2	0V
3	0V
4	0V
5	0V
6	5V
7	0V
8	0V
9	0V
10	0V
11	1.7V
12	5V
13	2V
14	5V

IC8607

1	5V	15	2.5V
2	0V	16	0V
3	5V	17	0.2V
4	0V	18	0.6V
5	1.8V	19	5V
6	1.6V	20	5V
7	5V	21	5V
8	1.2V	22	5V
9	2V	23	1.2V
10	5V	24	1.2V
11	5V	25	2.5V
12	2.4V	26	1.2V
13	5V	27	0V
14	0V	28	2.5V

IC8608

1	2.5V	12	0V
2	0.9V	13	0V
3	2.5V	14	0V
4	0V	15	5V
5	2.5V	16	0V
6	5V	17	2.8V
7	2.5V	18	
8	1.2V	19	1.2V
9	2.4V	20	0V
10	0V	21	0V
11	5V	22	4.1V

IC8609

1	1.8V	11	0V
2	3.7V	12	0V
3	3.7V	13	0V
4	5V	14	5V
5	0V	15	0V
6	2.5V	16	0V
7	2.5V	17	0V
8	0V	18	0V
9	2.5V	19	0V
10	5V	20	1.8V

IC8610

1	15V
2	0V
3	5V

IC8611

1	1.8V
2	1.8V
3	1.8V
4	-15V
5	1.8V
6	1.8V
7	1.8V
8	15V

IC8612

1	0V
2	0V
3	0V
4	-15V
5	0V
6	0V
7	0V
8	15V

IC9801

1	3.9V	9	12V
2	0V	10	0V
3	0V	11	3.9V
4	0V	12	0V
5	0V	13	0V
6	3.9V	14	0V
7	0V	15	0V
8	3.9V	16	12V

IC9802

1	12V
2	0V
3	

[Measuring Conditions]

- Power Supply Voltage : JA AC100V
  : UQ/UZ AC120V
  : AD AC120/220/240V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Condition : No Signal Input

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
uF=microfarads, pF=picofarads

Abbreviations

RES.=Resistor
C.F.=Carbon Film
M.F.=Metal Film
M.O.=Metal Oxide Film
M.P.=Metal Plate
TR.=Transistor
TRANS.=Transformer
CP.=Chip

CAP.=Capacitor
ELY.=Electrolytic
CER.=Ceramic
MYL.=Mylar
TAN.=Tantalum
POLY.=Polystyrol
PP.=Polypropylene
PLT.=Polyethylene

	Symbol No.	Part No.	Description		
	Main P. C. Board				
	IC's				
	IC1101	51T82394F01	NJM7815FA		
	IC1102	51T82395F01	NJM7915FA		
	IC1103	51T80338F01	NJM7805 MOLD		
	IC1104	51T80339F01	NJM7905 MOLD		
	IC2101	51T00038L01	M5220P		
	IC6101	51T80864F01	CX-770		
	IC6102	51T80864F01	CX-770		
	IC6103	51T80864F01	CX-770		
▲	IC6104	51T80864F01	CX-770		
	IC7101	51T68833F01	STK3062 MARK3		
	IC8101	51T67437F01	TA7317P		
	Transistors				
	Q7101	48T52545F03	2SA970		
	Q7102	48T52545F03	2SA970		
	Q7103	48T53301F02	2SC2240		
	Q7104	48T53301F02	2SC2240		
	Q7105	48T94820F01	2SB1258		
	Q7106	48T94820F01	2SB1258		
	Q7107	48T94821F01	2SD1785		
	Q7108	48T94821F01	2SD1785		
	Q7109	48T52545F03	2SA970		
	Q7110	48T52545F03	2SA970		
	Q7111	48T53301F02	2SC2240		
	Q7112	48T53301F02	2SC2240		
	Diodes				
	D1102	48T55186F01	IN4003		
	D6101	48T44813F01	MA165TA		
	D6102	48T44813F01	MA165TA		
	D6103	48T44813F01	MA165TA		
	D6104	48T44813F01	MA165TA		
	D6105	48T44813F01	MA165TA		
	D6106	48T44813F01	MA165TA		
	D6107	48T44813F01	MA165TA		
	D6108	48T44813F01	MA165TA		
	D6109	48T44813F01	MA165TA		
▲	D6110	48T44813F02	MA165TA		
	D7105	48T44813F01	MA165TA		
	D7106	48T44813F01	MA165TA		
	D7107	48T44813F01	MA165TA		
	D7108	48T44813F01	MA165TA		
	D7109	48T73079F02	ISS82 TD		
	D7110	48T73079F02	ISS82 TD		
	D7111	48T73079F02	ISS82 TD		
	D7112	48T73079F02	ISS82 TD		
	D7113	48T68764F01	1S2471		
	D7114	48T68764F01	1S2471		
	D7115	48T68764F01	1S2471		
	D7116	48T68764F01	1S2471		
	D7117	48T68764F01	1S2471		
	D7118	48T68764F01	1S2471		
	D7119	48T68764F01	1S2471		
	D7120	48T68764F01	1S2471		
	D7121	48T68764F01	1S2471		
	D7122	48T68764F01	1S2471		
	D7123	48T44813F01	MA165TA		
	D7124	48T44813F01	MA165TA		
	D7125	48T44813F01	MA165TA		
	D7126	48T44813F01	MA165TA		
	D8101	48T55186F01	IN4003-GPIOD		
	D8102	48T55186F01	IN4003-GPIOD		
	ZD1101	48T52739F99	Zener, HZ30-3		
	ZD1102	48T52739F99	Zener, HZ30-3		
	ZD7101	48T52739F41	Zener, HZ6C-2		
	ZD7102	48T52739F41	Zener, HZ6C-2		
	BD1101	48T61415F01	Bridge 1B4B41		
	Coils				
●	L2101	24T83130F02	Inductor, 33 µH		
●	L2102	24T83130F02	Inductor, 33 µH		
●	L2103	24T83130F02	Inductor, 33 µH		
●	L2104	24T83130F02	Inductor, 33 µH		
	L7101	24T74372F02	Inductor, 1 µH VERTI		
	L7102	24T74372F02	Inductor, 1 µH VERTI		

Notes : ● : For West German model only (AD), ▲ : For North American model only (UZ).
■ : For Japanese model only (JA), ★ : For Canadian model only (UQ), Others : Common.

	Symbol No.	Part No.	Description		
	Relay／Jacks				
	RL8101	80T95099F02	Relay, DH24D2-0T (M)		
	J2101	09T72605F01	Plate, PH (2P)		
	J4101	09T72606F02	Plate, PH (18P)		
	Capacitors				
▲	C1101	23T00138L62	ELY., 47 µ F／63V		
■	C1101	23T00138L62	ELY., 47 µ F／63V		
●	C1101	23T00149L68	ELY., 47 µ F／63V		
▲	C1102	23T00138L62	ELY., 47 µ F／63V		
■	C1102	23T00138L62	ELY., 47 µ F／63V		
●	C1102	23T00149L68	ELY., 47 µ F／63V		
▲	C1103	23T00138L32	ELY., 220 µ F／25V		
■	C1103	23T00138L32	ELY., 220 µ F／25V		
●	C1103	23T00149L37	ELY., 220 µ F／25V		
▲	C1104	23T00138L32	ELY., 220 µ F／25V		
■	C1104	23T00138L32	ELY., 220 µ F／25V		
●	C1104	23T00149L37	ELY., 220 µ F／25V		
●	C1105	21T68834F01	CER., 0.01 µ F		
●	C1106	21T68834F01	CER., 0.01 µ F		
	C1107	23T00134L46	ELY., 1000 µ F／25V		
▲	C1108	23T00138L32	ELY., 220 µ F／25V		
■	C1108	23T00138L32	ELY., 220 µ F／25V		
●	C1108	23T00149L37	ELY., 220 µ F／25V		
▲	C1109	23T00138L21	ELY., 100 µ F／16V		
■	C1109	23T00138L21	ELY., 100 µ F／16V		
●	C1109	23T00149L25	ELY., 100 µ F／16V		
▲	C1110	23T00138L21	ELY., 100 µ F／16V		
■	C1110	23T00138L21	ELY., 100 µ F／16V		
●	C1110	23T00149L25	ELY., 100 µ F／16V		
▲	C1111	23T00138L32	ELY., 220 µ F／25V		
■	C1111	23T00138L32	ELY., 220 µ F／25V		
●	C1111	23T00149L37	ELY., 220 µ F／25V		
●	C2101	21S40655F35	CER., 68pF		
●	C2102	21S40655F35	CER., 68pF		
▲	C2103	08S40805F01	CER., 100pF		
■	C2103	08S40805F01	CER., 100pF		
●	C2103	08S40805F03	CER., 220pF		
▲	C2104	08S40805F01	CER., 100pF		
■	C2104	08S40805F01	CER., 100pF		
●	C2104	08S40805F03	CER., 220pF		
	C2105	23T90772F40	ELY., 4.7 µ F／25V		
	C2106	23T90772F40	ELY., 4.7 µ F／25V		
	C2109	23T42478F31	ELY., 47 µ F／25V		
	C2110	23T42478F31	ELY., 47 µ F／25V		
	C2111	08T93406F63	PP., 0.039 µ F		

	Symbol No.	Part No.	Description		
	C2112	08T93406F63	PP., 0.039 µ F		
	C2113	08T93406F49	PP., 0.01 µ F		
	C2114	08T93406F49	PP., 0.01 µ F		
■	C2117	23T00149L46	ELY., 2.2 µ F／50V		
●	C2117	23T00149L53	ELY., 2.2 µ F／50V		
▲	C2117	23T90772F70	ELY., 2.2 µ F／50V		
■	C2118	23T00149L46	ELY., 2.2 µ F／50V		
●	C2118	23T00149L53	ELY., 2.2 µ F／50V		
▲	C2118	23T90772F70	ELY., 2.2 µ F／50V		
	C2119	08T93406F31	PP., 1800pF		
	C2120	08T93406F31	PP., 1800pF		
▲	C2121	23T00138L21	ELY., 100 µ F／16V		
■	C2121	23T00138L21	ELY., 100 µ F／16V		
●	C2121	23T00149L25	ELY., 100 µ F／16V		
▲	C2122	23T00138L21	ELY., 100 µ F／16V		
■	C2122	23T00138L21	ELY., 100 µ F／16V		
●	C2122	23T00149L25	ELY., 100 µ F／16V		
	C2123	08T57298F01	CER., 0.1 µ F		
	C2124	08T57298F01	CER., 0.1 µ F		
●	C4101	08S40805F01	CER., 100pF		
●	C4102	08S40805F01	CER., 100pF		
●	C4103	08S40805F01	CER., 100pF		
●	C4104	08S40805F01	CER., 100pF		
●	C4105	08S40805F01	CER., 100pF		
●	C4106	08S40805F01	CER., 100pF		
●	C4107	08S40805F01	CER., 100pF		
●	C4108	08S40805F01	CER., 100pF		
●	C4109	08S40805F01	CER., 100pF		
●	C4110	08S40805F01	CER., 100pF		
●	C4111	08S40805F01	CER., 100pF		
●	C4112	08S40805F01	CER., 100pF		
	C6101	08T52714F13	CER., 0.01 µ F		
	C6102	08T52714F13	CER., 0.01 µ F		
	C6103	08T52714F13	CER., 0.01 µ F		
	C6104	08T52714F13	CER., 0.01 µ F		
	C6105	08T52714F13	CER., 0.01 µ F		
	C6106	08T52714F13	CER., 0.01 µ F		
	C6107	08T52714F13	CER., 0.01 µ F		
	C6108	08T52714F13	CER., 0.01 µ F		
	C6109	08T52714F13	CER., 0.01 µ F		
	C6110	08T57298F01	CER., 0.1 µ F		
▲	C6111	23T00138L21	ELY., 100 µ F／16V		
■	C6111	23T00138L21	ELY., 100 µ F／16V		
●	C6111	23T00149L25	ELY., 100 µ F／16V		
▲	C6112	23T00138L21	ELY., 100 µ F／16V		
■	C6112	23T00138L21	ELY., 100 µ F／16V		
●	C6112	23T00149L25	ELY., 100 µ F／16V		
▲	C6113	08T44979P22	CER., 0.01 µ F		
	C7101	08S40805F01	CER., 100pF		
	C7102	08S40805F01	CER., 100pF		

Notes : ● : For West German model only (AD), ▲ : For North American model only (UZ),
■ : For Japanese model only (JA), ★ : For Canadian model only (UQ), Others : Common.

	Symbol No.	Part No.	Description		
●	C7103	08T61939F27	CER., 47pF		
●	C7104	08T61939F27	CER., 47pF		
	C7105	08S40805F05	CER., 470pF		
	C7106	08S40805F05	CER., 470pF		
	C7107	08T81196F05	MIC., 7pF		
	C7108	08T81196F05	MIC., 7pF		
	C7109	08T81196F03	MIC., 3pF		
	C7110	08T81196F03	MIC., 3pF		
	C7111	23T73856F13	ELY., 47 µ F／25V		
	C7112	23T73856F13	ELY., 47 µ F／25V		
▲	C7113	23T00138L72	ELY., 1 µ F／100V		
●	C7113	23T00149L74	ELY., 1 µ F／100V		
■	C7113	23T00138L72	ELY., 1 µ F／100V		
▲	C7114	23T00138L72	ELY., 1 µ F／100V		
●	C7114	23T00149L74	ELY., 1 µ F／100V		
■	C7114	23T00138L72	ELY., 1 µ F／100V		
▲	C7115	23T00138L63	ELY., 100 µ F／63V		
■	C7115	23T00138L63	ELY., 100 µ F／63V		
●	C7115	23T00149L69	ELY., 100 µ F／63V		
▲	C7116	23T00138L63	ELY., 100 µ F／63V		
■	C7116	23T00138L63	ELY., 100 µ F／63V		
●	C7116	23T00149L69	ELY., 100 µ F／63V		
	C7121	08T81196F34	MIC., 100pF		
	C7122	08T81196F34	MIC., 100pF		
	C7123	08T81196F34	MIC., 100pF		
	C7124	08T81196F34	MIC., 100pF		
	C7125	08T93406F33	PP., 2200pF		
	C7126	08T93406F33	PP., 2200pF		
	C7127	08T93406F33	PP., 2200pF		
	C7128	08T93406F33	PP., 2200pF		
	C7129	08T93406F13	PP., 330pF		
	C7130	08T93406F13	PP., 330pF		
▲	C7131	23T00138L72	ELY., 1 µ F／100V		
●	C7131	23T00149L74	ELY., 1 µ F／100V		
■	C7131	23T00138L72	ELY., 1 µ F／100V		
▲	C7132	23T00138L72	ELY., 1 µ F／100V		
●	C7132	23T00149L74	ELY., 1 µ F／100V		
■	C7132	23T00138L72	ELY., 1 µ F／100V		
▲	C7133	23T00138L52	ELY., 47 µ F／50V		
■	C7133	23T00138L52	ELY., 47 µ F／50V		
●	C7133	23T00149L59	ELY., 47 µ F／50V		
▲	C7134	23T00138L52	ELY., 47 µ F／50V		
■	C7134	23T00138L52	ELY., 47 µ F／50V		
●	C7134	23T00149L59	ELY., 47 µ F／50V		
▲	C7135	23T00138L49	ELY., 10 µ F／50V		
■	C7135	23T00138L49	ELY., 10 µ F／50V		
●	C7135	23T00149L56	ELY., 10 µ F／50V		
▲	C7136	23T00138L49	ELY., 10 µ F／50V		
■	C7136	23T00138L49	ELY., 10 µ F／50V		
●	C7136	23T00149L56	ELY., 10 µ F／50V		

	Symbol No.	Part No.	Description		
▲	C7137	23T00138L49	ELY., 10 µ F／50V		
■	C7137	23T00138L49	ELY., 10 µ F／50V		
●	C7137	23T00149L56	ELY., 10 µ F／50V		
▲	C7138	23T00138L49	ELY., 10 µ F／50V		
■	C7138	23T00138L49	ELY., 10 µ F／50V		
●	C7138	23T00149L56	ELY., 10 µ F／50V		
▲	C7139	23T00138L72	ELY., 1 µ F／100V		
●	C7139	23T00149L74	ELY., 1 µ F／100V		
■	C7139	23T00138L72	ELY., 1 µ F／100V		
▲	C7140	23T00138L72	ELY., 1 µ F／100V		
●	C7140	23T00149L74	ELY., 1 µ F／100V		
■	C7140	23T00138L72	ELY., 1 µ F／100V		
▲	C7141	23T00138L72	ELY., 1 µ F／100V		
●	C7141	23T00149L74	ELY., 1 µ F／100V		
■	C7141	23T00138L72	ELY., 1 µ F／100V		
▲	C7142	23T00138L72	ELY., 1 µ F／100V		
●	C7142	23T00149L74	ELY., 1 µ F／100V		
■	C7142	23T00138L72	ELY., 1 µ F／100V		
■	C7143	23T00149L46	ELY., 2.2 µ F／50V		
●	C7143	23T00149L53	ELY., 2.2 µ F／50V		
▲	C7143	23T90772F70	ELY., 2.2 µ F／50V		
■	C7144	23T00149L46	ELY., 2.2 µ F／50V		
●	C7144	23T00149L53	ELY., 2.2 µ F／50V		
▲	C7144	23T90772F70	ELY., 2.2 µ F／50V		
	C7145	08T40658F70	CER., 0.047 µ F		
	C7146	08T40658F70	CER., 0.047 µ F		
	C7147	08T40658F70	CER., 0.047 µ F		
	C7148	08T40658F70	CER., 0.047 µ F		
	C7149	08S40805F01	CER., 100pF		
	C7150	08S40805F01	CER., 100pF		
▲	C8101	23T00138L20	ELY., 47 µ F／16V		
■	C8101	23T00138L20	ELY., 47 µ F／16V		
●	C8101	23T00149L23	ELY., 47 µ F／16V		
▲	C8102	23T00138L72	ELY., 1 µ F／100V		
●	C8102	23T00149L74	ELY., 1 µ F／100V		
■	C8102	23T00138L72	ELY., 1 µ F／100V		
▲	C8103	23T00138L18	ELY., 22 µ F／16V		
■	C8103	23T00138L18	ELY., 22 µ F／16V		
●	C8103	23T00149L21	ELY., 22 µ F／16V		
▲	C8104	23T00138L44	ELY., 0.47 µ F／50V		
■	C8104	23T00138L44	ELY., 0.47 µ F／50V		
●	C8104	23T00149L51	ELY., 0.47 µ F／50V		
■	C8105	23T00138L46	ELY., 2.2 µ F／50V		
▲	C8105	23T00138L46	ELY., 2.2 µ F／50V		
●	C8105	23T00149L53	ELY., 2.2 µ F／50V		
	C8106	08S40805F11	CER., 2200pF		
	C8107	08T52714F13	CER., 0.01 µ F		
	C8108	23T00149L39	ELY., 470 µ F／25V		

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Symbol No.	Part No.	Description		
Resistors				
R1101	06T92264F46	M.F., 750 ohm 2W		
R1102	06T92264F46	M.F., 750 ohm 2W		
R1104	06T92264F09	M.F., 22 ohm 2W		
R1105	06T92264F09	M.F., 22 ohm 2W		
R7141	06T92264F25	M.F., 100 ohm 2W		
R7142	06T92264F25	M.F., 100 ohm 2W		
R7151	06T92262F01	M.F., 0.22 ohm 3W		
R7152	06T92262F01	M.F., 0.22 ohm 3W		
R7153	06T92262F01	M.F., 0.22 ohm 3W		
R7154	06T92262F01	M.F., 0.22 ohm 3W		
● R7155	06T92263F01	M.F., 10 ohm 1W		
■ R7155	06T92263F01	M.F., 10 ohm 1W		
▲ R7155	06C43205J37	M.F., 10 ohm 1/2W		
● R7156	06T92263F01	M.F., 10 ohm 1W		
■ R7156	06T92263F01	M.F., 10 ohm 1W		
▲ R7156	06C43205J37	M.F., 10 ohm 1/2W		
R7157	06T92264F01	M.F., 10 ohm 2W		
R7158	06T92264F01	M.F., 10 ohm 2W		
R8116	06T92264F53	M.F., 1.5k ohm 2W		
VR7101	18C41732G07	Variable 1k ohm		
VR7102	18C41732G07	Variable 1k ohm		
Power Switch P. C. Board				
Switches/Jack/Capacitors/Resistors				
S1301	40T92255F02	Switch, PUSH SDLD 1P (POWER)		
S7301	40T95032F01	Switch, PUSH SPUN19 (SPEAKERS A)		
S7302	40T95031F01	Switch, PUSH SPUN12 (SPEAKERS B)		
J7301	09T52845F12	Jack, HD M1658AYCA (PHONE)		
C1301	08T57437F09	CER., 0.01 µF		
C1302	08T57437F09	CER., 0.01 µF		
R7301	06T92264F33	M.F., 220 ohm		
R7302	06T92264F33	M.F., 220 ohm		
Power Supply P. C. Board				
Diode/Capacitors				
BD1401	48T81924F01	Bridge Diode, RBV−602		
C1401	23T95038F01	ELY., 0.01 µF/63V		
C1402	23T95038F01	ELY., 0.01 µF/63V		
● C1403	21T68834F01	CER., 0.01 µF		
● C1404	21T68834F01	CER., 0.01 µF		

Symbol No.	Part No.	Description		
Function P. C. Board				
IC's				
IC4201	51T52383F01	NJM4558D		
IC4202	51T52383F01	NJM4558D		
Diodes				
LD8201	48T66616F02	LED, SLR−54VR3 (RED)		
LD8202	48T66616F02	LED, SLR−54VR3 (RED)		
LD8203	48T66616F02	LED, SLR−54VR3 (RED)		
LD8204	48T66616F02	LED, SLR−54VR3 (RED)		
LD8205	48T66616F02	LED, SLR−54VR3 (RED)		
LD8206	48T66616F02	LED, SLR−54VR3 (RED)		
LD8207	48T66616F02	LED, SLR−54VR3 (RED)		
ZD8206	48T68697F27	Zener, HZS6.8EB2		
Switches				
S6201	40T95030F01	Switch, PUSH SPEC23 (LOUDNESS)		
S6202	40T83838F01	Switch, PUSH 1P (LINE STRAIGHT)		
S6203	40T83838F01	Switch, PUSH 1P (DIGITAL DIRECT)		
S6204	40T95034F01	Switch, PUSH SPEA51 (INPUT SELECTOR)		
S6205	40T95063F01	Switch, PUSH SPEC12 (FRONT REAR)		
S6206	40T95064F01	Switch, PUSH SPEC23 (TAPE1/2)		
Capacitors				
C1201	23S57007F13	ELY., 33 µF/16V		
C1202	23S57007F13	ELY., 33 µF/16V		
C4201	23S57007F05	ELY., 1 µF/50V		
C4202	23S57007F05	ELY., 1 µF/50V		
C4203	08S40805F01	CER., 100pF		
C4204	08S40805F01	CER., 100pF		
C4205	23S57007F21	ELY., 10 µF/25V		
C4206	23S57007F21	ELY., 10 µF/25V		
C4207	23S57007F06	ELY., 2.2 µF/50V		
C4208	23S57007F06	ELY., 2.2 µF/50V		

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Symbol No.	Part No.	Description		
C4209	08S40805F16	CER., 5600pF		
C4210	08S40805F16	CER., 5600pF		
C4211	08T57851F05	T.F., 0.022 µF		
C4212	08T57851F05	T.F., 0.022 µF		
C4213	08T57851F15	T.F., 0.15 µF		
C4214	08T57851F15	T.F., 0.15 µF		
C6201	08T93406F23	PP., 820pF		
C6202	08T93406F23	PP., 820pF		
C6203	08T57851F03	T.F., 0.015 µF		
C6204	08T57851F03	T.F., 0.015 µF		
C6205	08T57851F18	T.F., 0.27 µF		
C6206	08T57851F18	T.F., 0.27 µF		
Volumes				
VR4201	18T95027F01	Volume, K162 10k ohm B × 2 (TREBLE)		
VR4202	18T95027F01	Volume, K162 10k ohm B × 2 (BASS)		
VR6201	18T71727F01	Volume, 100k ohm B × 2 (CT), RKDA00 (VOLUME)		
VR6202	18T95028F01	Volume, K162 250k ohm MN (BALANCE)		
Speaker Terminal P. C. Board				
Capacitors				
● C7501	08S40805F07	CER., 1000pF		
● C7502	08S40805F07	CER., 1000pF		
● C7503	08S40805F07	CER., 1000pF		
● C7504	08S40805F07	CER., 1000pF		
● C7505	08S40805F21	CER., 0.022 µF		
● C7506	08S40805F21	CER., 0.022 µF		
DAC Switch P. C. Board				
Diodes/Capacitors				
D8202	48T44813F01	MA165TA		
D8203	48T44813F01	MA165TA		
D8204	48T44813F01	MA165TA		
D8205	48T44813F01	MA165TA		
D8206	48T44813F01	MA165TA		
C8201	23S57007F12	ELY., 33 µF/10V		
C8202	23S57007F12	ELY., 33 µF/10V		
C8203	23S57007F12	ELY., 33 µF/10V		

Symbol No.	Part No.	Description		
Lamps				
PL8201	68T80326F02	Pilot, 5V/150mA		
PL8202	68T80326F02	Pilot, 5V/150mA		
PL8203	68T80326F02	Pilot, 5V/150mA		
Switch				
S6207	40T95029F01	Push, SPEC31 (DIGITAL 1, 2/ DAT MONITOR)		
DAC P. C. Board				
IC's				
IC8601	51T84774F01	TORX172		
IC8602	51T80475F01	TC74HCU04P		
IC8603	51T83506F01	TC74HC00P		
★ or	51T67211F01	HD74C00		
IC8604	51T83506F01	TC74HC00P		
★ or	51T67211F01	HD74C00		
IC8605	51T72306F01	UPD4052BC		
IC8606	51T83506F01	TC74HC00P		
★ or	51T67211F01	HD74C00		
IC8607	51T91084F02	YM3623B		
IC8608	51T95091F01	CXD1162P		
IC8609	51T95181F01	LC7881 (DAC)		
IC8610	51T61180F02	NJM78L05A		
IC8611	51T80136F01	M5238P−DUAL		
IC8612	51T80136F01	M5238P−DUAL		
Transistors				
Q8601	48T43015U01	2SC2120		
Q8602	48T43015U01	2SC2120		
Q8603	48T43015U01	2SC2120		
Q8604	48T51118F02	2SA1015		
● Q8605	48T82763F02	DTC114EL		
▲ Q8605	48T82763F02	DTC114EL		
■ Q8605	48T82763F02	DTC114EL		
★ Q8605	48T62963F02	DTC114		
● Q8606	48T82762F02	DTA114EL		
▲ Q8606	48T82762F02	DTA114EL		
■ Q8606	48T82762F02	DTA114EL		
★ Q8606	48T62962F02	DTA114		
Q8607	48T57305F04	2SD1302		
Q8608	48T57305F04	2SD1302		
Q8609	48T57305F04	2SD1302		
Q8610	48T57305F04	2SD1302		
Q8611	48T81103F01	2SC1740		

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Symbol No.	Part No.	Description		
Diodes				
D8601	48T44813F01	MA165TA		
D8602	48T44813F01	MA165TA		
D8603	48T44813F01	MA165TA		
Coil/Transformer/Crystal/Jack				
L8601	24T50508F34	Coil, Inductor 100 μH		
T8601	25T94882F01	TRANS PULS		
X8601	48T84727F01	Crystal, AT-51 16.9344M		
J8601	09T95188F01	Plate, Phono T6182		
Capacitors				
C8601	23T00138L10	ELY., 33 μF/10V		
C8602	23T00138L10	ELY., 33 μF/10V		
C8603	23T00138L10	ELY., 33 μF/10V		
C8604	23T00138L10	ELY., 33 μF/10V		
C8605	23T00138L12	ELY., 100 μF/10V		
C8606	23T00138L12	ELY., 100 μF/10V		
C8607	23T00138L12	ELY., 100 μF/10V		
C8608	23T00138L12	ELY., 100 μF/10V		
C8609	23T00138L12	ELY., 100 μF/10V		
C8610	23T00138L12	ELY., 100 μF/10V		
C8611	08T57705F13	MYL., 4700pF		
C8612	08S65480F13	CER., 10pF		
C8613	08S65480F13	CER., 10pF		
C8614	23T00138L03	ELY., 100 μF/6.3V		
C8615	23T00138L03	ELY., 100 μF/6.3V		
C8616	23T00138L03	ELY., 100 μF/6.3V		
C8617	23T00138L10	ELY., 33 μF/10V		
C8618	08T57298F01	CER., 0.1 μF		
C8619	23T00138L17	ELY., 100 μF/16V		
C8620	23T00138L12	ELY., 100 μF/10V		
C8621	23T00138L19	ELY., 33 μF/16V		
C8622	23T00138L19	ELY., 33 μF/16V		
C8623	23T00138L19	ELY., 33 μF/16V		
C8624	23T00138L63	ELY., 4.7 μF/50V		
C8625	23T90772F41	ELY., 100 μF/25V		
C8626	23T90772F41	ELY., 100 μF/25V		
C8627	23T00138L19	ELY., 33 μF/16V		
C8628	23T00138L19	ELY., 33 μF/16V		
C8629	23T00138L19	ELY., 33 μF/16V		
C8630	23T00138L19	ELY., 33 μF/16V		
C8631	08T57705F30	MYL., 0.12 μF		
C8632	08T57705F30	MYL., 0.12 μF		
C8633	23T90772F42	ELY., 220 μF/25V		
C8634	23T90772F42	ELY., 220 μF/25V		
C8635	23T90772F70	ELY., 2.2 μF/50V		
C8636	23T90772F70	ELY., 2.2 μF/50V		

Symbol No.	Part No.	Description		
Filters				
LP8601	24T95189F01	LPF, 70910910-22K		
LP8602	24T95189F01	LPF, 70910910-22K		
Power LED P. C. Board				
LED				
● LD8701	48T66616F02	SLR-54VR3 (RED)		
▲ LD8701	48T66616F02	SLR-54VR3 (RED)		
■ LD8701	48T66616F02	SLR-54VR3 (RED)		
★ LD8701	48T10857W01	GL5PR8 (RED)		
Video P. C. Board				
IC's/Transistors				
IC9801	51T95186F01	IC, Video HA11513		
IC9802	51T80340F01	IC, NJM7812 MOLD		
▲ Q9801	48T81103F01	2SC1740		
▲ Q9802	48T81103F01	2SC1740		
▲ Q9804	48T81104F01	2SA933A		
▲ Q9805	48T81103F01	2SC1740		
Diodes/Coil/Jack				
D9801	48T44813F01	MA165TA		
▲ D9801	48T44813F02	MA165TA		
L9801	24T50508F34	Coil, Inductor 100 μH		
J9801	09T72603F04	Plate, Phono (4P)		
Capacitors				
C9801	23T00149L37	ELY., 220 μF/25V		
C9802	23T00149L26	ELY., 220 μF/16V		
C9803	08T52714F13	CER., 0.01 μF		
C9805	08T52714F13	CER., 0.01 μF		
C9806	23T00149L28	ELY., 470 μF/16V		
C9807	23T00149L28	ELY., 470 μF/16V		
C9808	23T00149L13	ELY., 100 μF/10V		
C9809	23T00149L16	ELY., 470 μF/10V		
C9811	23T00149L16	ELY., 470 μF/10V		
C9812	23T00149L26	ELY., 220 μF/16V		
C9813	23T00149L53	ELY., 2.2 μF/50V		
C9814	23T00149L13	ELY., 100 μF/10V		
C9815	23T00149L53	ELY., 2.2 μF/50V		
C9816	23T00149L13	ELY., 100 μF/10V		
C9818	08T52714F13	CER., 0.01 μF		
C9819	08T52714F13	CER., 0.01 μF		

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Symbol No.	Part No.	Description		
Miscellaneous				
J9901	09T80329F01	Plate, Phono		
J9902	09T80329F02	Plate, Phono		
J9903	09T80329F01	Plate, Phono		
● F1101	65T42077U16	Fuse, Semko (1A)		
▲ F1101	65T66926F13	Fuse, 51NM (1A-250V)		
● F1102	65T42077U16	Fuse, Semko (1A)		
▲ F1102	65T66926F13	Fuse, 51NM (1A-250V)		
● F1301	65T42077U21	Fuse, Semko (3.15A)		
▲ F1301	65T66926F19	Fuse, 51NM (5A-125V)		
■ F1301	65T66926F19	Fuse, 51NM (5A-125V)		
■ J1001	09T68841F02	Outlet, AC		
▲ J1001	09T68841F03	Outlet, AC		
● J1002	09T51831F01	Socket, Switch		
LD8701	48T66616F02	LED SLR 54VR3 (Red)		
● P1001	28T43812P04	Plug, Cord		
▲ P1001	28T55335F02	Plug, AC Cord		
■ P1001	28T67434F01	Plug, AC Cord		
● P1002	09T51830F01	Plug, Switch		
Q7113	48T92782F01	2SC3964		
Q7114	48T92782F01	2SC3964		
Q7115	48T95041F01	2SA1673		
Q7116	48T95041F01	2SA1673		
Q7117	48T95042F01	2SC4388		
Q7118	48T95042F01	2SC4388		
Q8101	48T64375F01	2SA1360		
● T1001	25T95187F01	TRANS, Power		
■ T1001	25T95187F02	TRANS, Power		
▲ T1001	25T95187F03	TRANS, Power		

Symbol No.	Part No.	Description		

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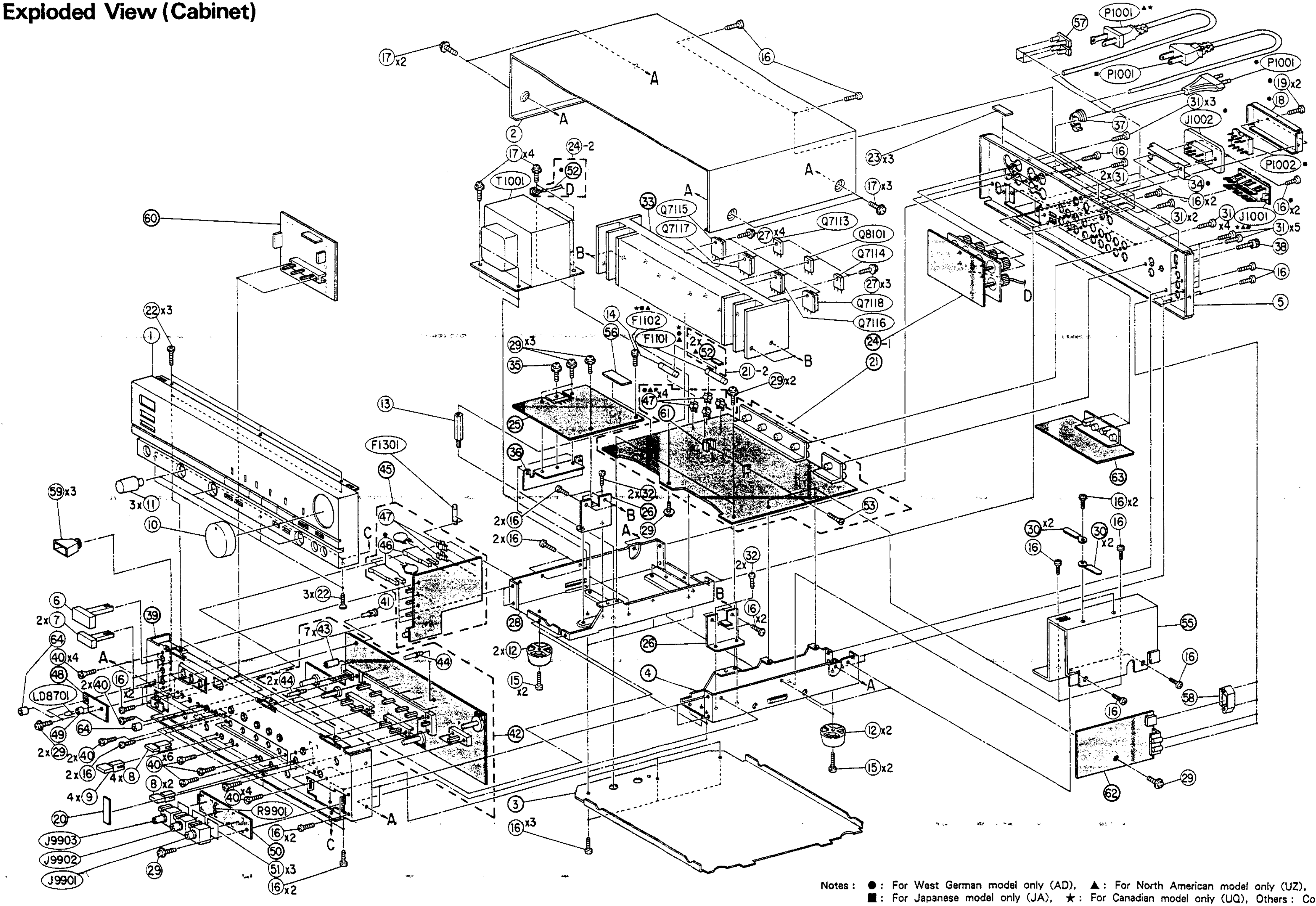
Cabinet Assembly Parts List

NOTE : The parts without part numbers are not supplied.

Symbol No.		Index	Part No.	Description		
●	1	2-B	01V94700F49	Assy., Front Panel		
▲	1	2-B	01V94700F49	Assy., Front Panel		
■	1	2-B	01V94900F53	Assy., Front Panel		
	2	1-D	15D72658F01	Cover, Top		
●	5	2-H	15D94698F03	Cover, Rear		
■	5	2-H	15D94698F04	Cover, Rear		
▲	5	2-H	15D94698F05	Cover, Rear		
★	5	2-H	15D94698F06	Cover, Rear		
	6	4-A	36B70885F07	Knob, Power		
	7	4-A	36B83814F01	Knob, Speaker		
	8		36A72661F01	Knob, Push Tone		
	9	5-A	36A67333F01	Knob, Push (3 × 10)		
	10	4-B	36B67336F02	Knob, Main Volume (B)		
	11	4-A	36A74341F02	Knob, Tone Volume (B)		
	12		75A96563F01	Pad, Tranleg		
	13	3-C	47C64899F60	Shaft		
	14	2-D	03C40121T17	Screw, W/Washer (M3 × 8)		
	15		03S44205G52	Screw, Pan (M4 × 14)		
	16		03S71031F04	Screw, Bind (M3 × 8)		
	17		03S40036U01	Screw, W/Washer (M4 × 8)		
●	18	1-H	15A82362F01	Cover, V−Sele		
●	19	1-H	03S71677F18	Screw, Bind (M3 × 12)		
	20	5-A	75A57803F04	Cushion		
	22		03S71031F09	Screw, Countersunk (M3 × 8)		
	23	1-F	14S53018F42	Insulator		
	27		03C40121T18	Bolt Hex W/Double Washer (M3 × 10)		
	29		03S40018G08	Screw, Tapping (M3 × 8)		
	31		03A82468F01	Screw, Tapping (M3 × 10)		
	32		03S71031F03	Screw, Bind (M3 × 6)		
●	34	2-H	14A82952F01	Insulator, V−Sele		
	35	3-D	03S40018G12	Screw, Tapping (M3 × 10)		
	37	1-G	43B41625J02	Support, Cord		
	38	2-H	29T66964F01	Terminal, GND		
	40		03S43997P42	Screw, Countersunk [illegible]		
	41	4-C	05B41635J02	Rivet, Push		
	43	4-C	43A41837U04	Spacer, LED		
	44		09T84840F02	Lug, Style (32mm)		
●	46	4-C	43T53136F01	Bush, Cap		
	47		09T51410F01	Holder, Fuse (SEMKO)		
	49	5-A	43A41837U02	Spacer, LED		
	51	5-B	14A96023F01	Insulator, Jack		
	53	4-F	03S43997P76	Screw, Countersunk (M3 × 6)		
	54		03S40012G93	Screw, Tapping (M3 × 8)		
	56	3-D	14S94461F27	Insulator, Cover		
	57	1-G	09T95168F01	Plug, Jumper		
	58	5-H	07A84472F01	Frame, Opt Jack		
	59	3-A	43A83239F02	Holder, Lamp		
	64	5-A	43A61758F04	Spacer, Lamp		

Notes : ● : For West German model only (AD), ▲ : For North American model only (UZ),
■ : For Japanese model only (JA), ★ : For Canadian model only (UQ), Others : Common.

Exploded View (Cabinet)


⑰x2
A
⑯
A
②
A
P1001 ▲★
(57)
P1001
■ P1001
● P1001
● ⑲x2
● ⑱
(31)x3
J1002 ●
(37)
(23)x3
⑯
2x(31)
P1002 ●
⑰x4
(24)-2
● (52)
D
T1001
A
⑰x3
(34) ●
⑯x2
⑯x2
(31)x2
(31)
J1001
x4 ★▲■
(31)x5
(38)
⑯
⑤
(33)
Q7115
Q7117
(27)x4
Q7113
Q8101
Q7114
(27)x3
Q7118
Q7116
B
B
D
(24)-1
(21)
(60)
(22)x3
①
⑭
★●▲ F1102
(56)
★●▲ F1101
2x(52)
(21)-2
(29)x2
(29)x3
(35)
(25)
●▲★ (47)x4
(61)
⑬
F1301
(45)
(36)
(59)x3
3x⑪
⑩
2x⑯
2x(32)
B
(26)
A
(29)
(53)
(47)
(46)
C
2x⑯
(63)
⑯x2
(30)x2
⑯
(30)x2
⑯
3x(22)
(41)
(28)
2x(32)
B
⑯x2
⑥
2x⑦
(39)
(64)
(40)x4
A
(48)
2x(40)
⑯ x2
LD8701
(49)
(64)
7x(43)
2x(44)
(44)
2x⑫
⑮ x2
(26)
④
A
(55)
⑯
(58)
⑯
⑫x2
⑮x2
(42)
2x(29)
2x(40)
2x⑯
4x⑧
(40)x6
⑧x2
4x⑨
(40)x4
R9901
⑳
J9903
J9902
J9901
(29)
⑯x2
(50)
(51)x3
C
⑯x2
A
③
⑯x3
(62)
(29)

Notes : ● : For West German model only (AD), ▲ : For North American model only (UZ),
■ : For Japanese model only (JA), ★ : For Canadian model only (UQ), Others : Common.

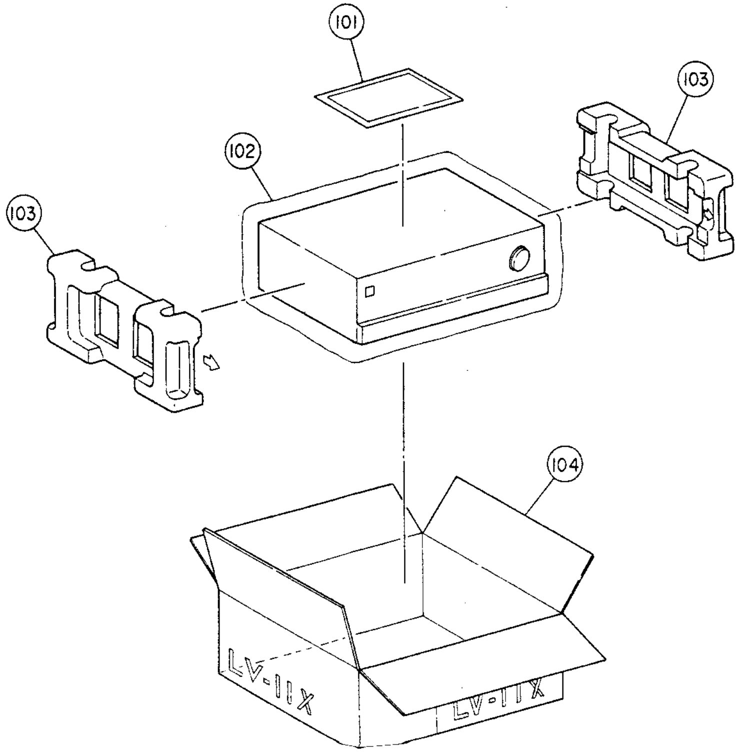
Packing Assembly Parts List

	Symbol No.	Part No.	Description		
■	101	68P81707F60	Owner's Manual		
●	101	68P81707F61	Owner's Manual		
▲	101	68P81707P84	Owner's Manual		
★	101	68P81707F61	Owner's Manual		
	102	56B40442T08	Packing, Front Frame		
	103	56D94704F01	Tray, Packing		
●	104	56S83833F45	Carton, Packing		
■	104	56S83833F46	Carton, Packing		

	Symbol No.	Part No.	Description		

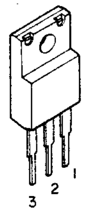
Notes : ● : For West German model only (AD), ▲ : For North American model only (UZ),
■ : For Japanese model only (JA), ★ : For Canadian model only (UQ), Others : Common.

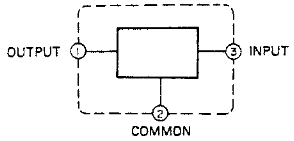
Packing Method View


101
103
102
103
104
LV-11X
LV-11X

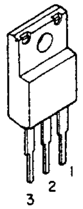
Semi-Conductor Lead Identifications

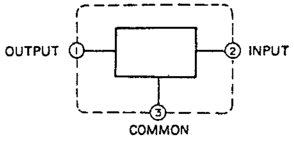
NJM7815FA : IC1101
NJM7805 : IC1103



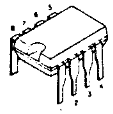

OUTPUT
1
3
INPUT
2
COMMON

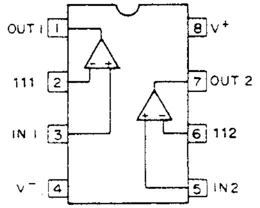
NJM7915FA : IC1102
NJM7905 : IC1104



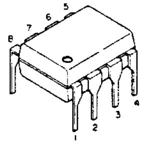

OUTPUT
1
2
INPUT
3
COMMON

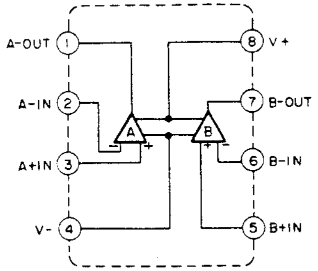
M5220P : IC2101
M5238P : IC8611, 8612



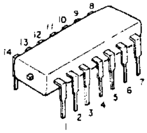

OUT 1
1
111
2
IN 1
3
V⁻
4
8
V⁺
7
OUT 2
6
112
5
IN2

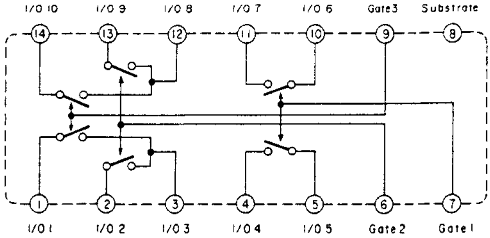
NJM4558D : IC4201, 4204



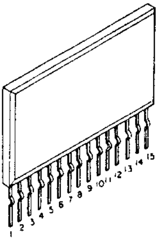

A-OUT
1
A-IN
2
A+IN
3
V-
4
8
V+
7
B-OUT
6
B-IN
5
B+IN
A
B

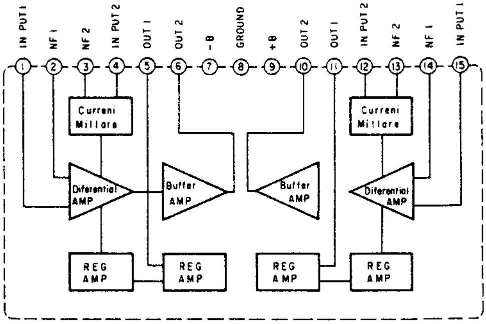
CX770 : IC6101, 6102, 6103, 6104


1
2
3
4
5
6
7
8
9
10
11
12
13
14

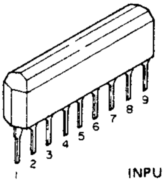

I/O 10
I/O 9
I/O 8
I/O 7
I/O 6
Gate3
Substrate
14
13
12
11
10
9
8
1
2
3
4
5
6
7
I/O 1
I/O 2
I/O 3
I/O 4
I/O 5
Gate 2
Gate 1

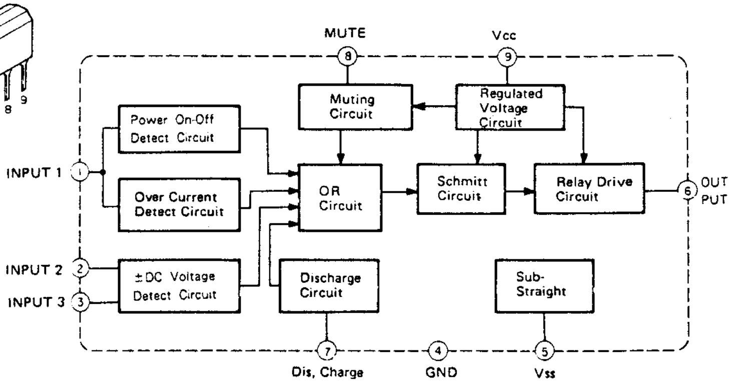
STK3062 : IC7101


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

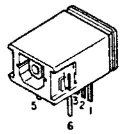

IN PUT 1
NF 1
NF 2
IN PUT 2
OUT 1
OUT 2
-B
GROUND
+B
OUT 2
OUT 1
IN PUT 2
NF 2
NF 1
IN PUT 1
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Curreni Millore
Diferential AMP
Buffer AMP
Buffer AMP
Diferential AMP
Curreni Millore
REG AMP
REG AMP
REG AMP
REG AMP

TA7317P : IC8101




MUTE
8
Vcc
9
Muting Circuit
Regulated Voltage Circuit
Power On-Off Detect Circuit
INPUT 1
1
Over Current Detect Circuit
OR Circuit
Schmitt Circuit
Relay Drive Circuit
6
OUT PUT
INPUT 2
2
INPUT 3
3
±DC Voltage Detect Circuit
Discharge Circuit
Sub-Straight
7
Dis, Charge
4
GND
5
Vss

TORX172 : IC8601



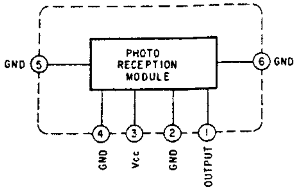
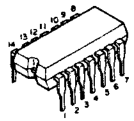
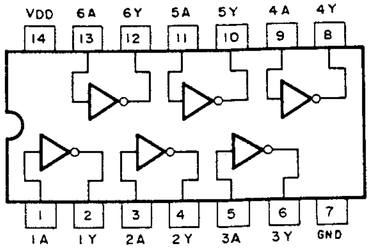


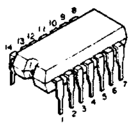
PHOTO
RECEPTION
MODULE
GND 5
6 GND
4 GND
3 Vcc
2 GND
1 OUTPUT

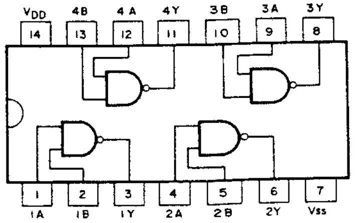
TC74HCU04P : IC8602


14 13 12 11 10 9 8
1 2 3 4 5 6 7

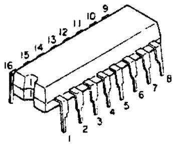

VDD
6A
6Y
5A
5Y
4A
4Y
14
13
12
11
10
9
8
1
2
3
4
5
6
7
1A
1Y
2A
2Y
3A
3Y
GND

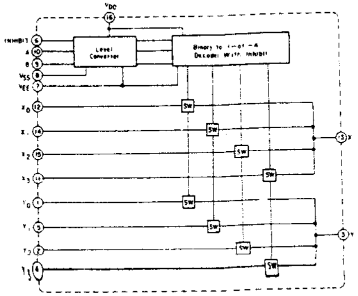
TC74HC00P : IC8603, 8604, 8606


14 13 12 11 10 9 8
1 2 3 4 5 6 7

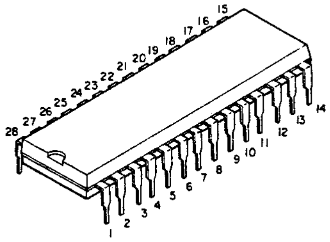

VDD
4B
4A
4Y
3B
3A
3Y
14
13
12
11
10
9
8
1
2
3
4
5
6
7
1A
1B
1Y
2A
2B
2Y
Vss

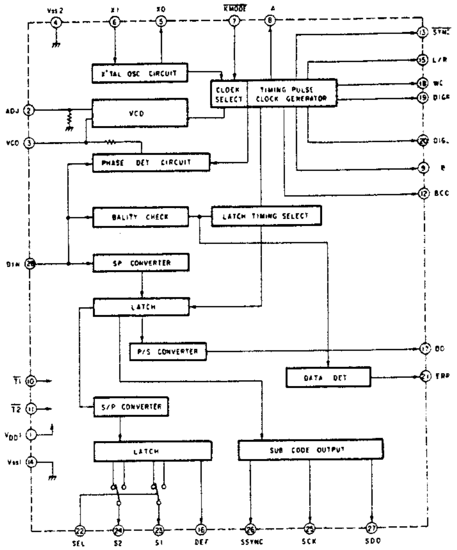
µ PD4052BC : IC8605


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8

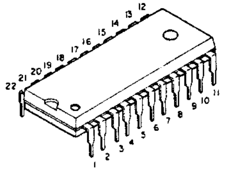

VDD 16
INHIBIT 6
A 10
B 9
VSS 8
VEE 7
Level Converter
Binary to 1-of-4 Decoder With Inhibit
X0 12
X1 14
X2 15
X3 11
Y0 1
Y1 5
Y2 2
Y3 4
SW
13 X
3 Y

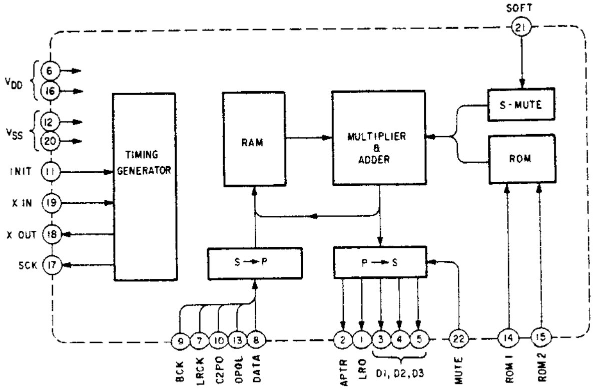
YM3623B : IC8607


28 27 26 25 24 23 22 21 20 19 18 17 16 15
1 2 3 4 5 6 7 8 9 10 11 12 13 14

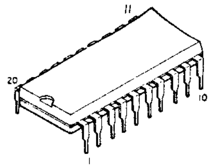

Vss2 4
XI 6
XO 5
KMODE 7
A 8
X'TAL OSC CIRCUIT
CLOCK SELECT
TIMING PULSE CLOCK GENERATOR
VCO
PHASE DET CIRCUIT
BALITY CHECK
LATCH TIMING SELECT
SP CONVERTER
LATCH
P/S CONVERTER
DATA DET
S/P CONVERTER
LATCH
SUB CODE OUTPUT
ADJ 2
VCO 3
DIN 28
T1 10
T2 11
VDD1 1
Vss1 14
13 SYNC
15 L/R
18 WC
19 DIGR
20 DIGL
9 R
12 BCC
17 DO
21 ERR
22 SEL
24 S2
23 S1
16 DEF
26 SSYNC
25 SCK
27 SDO

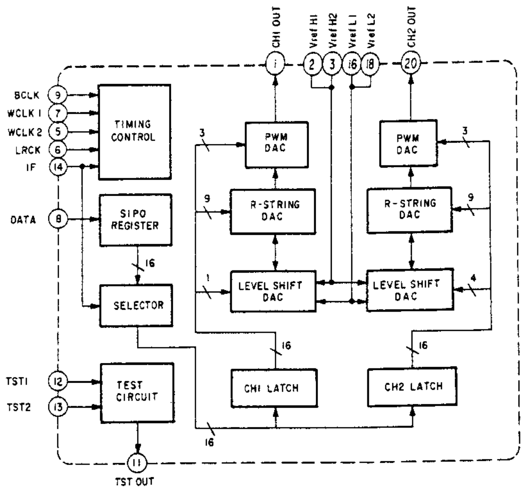
CXD1162P : IC8608


22 21 20 19 18 17 16 15 14 13 12
1 2 3 4 5 6 7 8 9 10 11

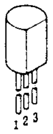

SOFT 21
VDD 6 16
VSS 12 20
INIT 11
X IN 19
X OUT 18
SCK 17
TIMING GENERATOR
RAM
MULTIPLIER & ADDER
S-MUTE
ROM
S→P
P→S
9 BCK
7 LRCK
10 C2PO
13 OPOL
8 DATA
2 APTR
1 LRO
3 4 5 D1, D2, D3
22 MUTE
14 ROM 1
15 ROM 2

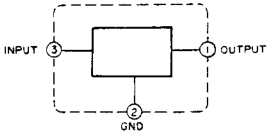
LC7881 : IC8609



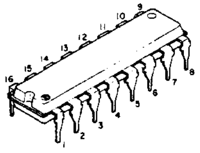

CH1 OUT
Vref H1
Vref H2
Vref L1
Vref L2
CH2 OUT
1
2
3
16
18
20
BCLK 9
WCLK 1 7
WCLK 2 5
LRCK 6
IF 14
DATA 8
TST1 12
TST2 13
11
TST OUT
TIMING CONTROL
SIPO REGISTER
SELECTOR
TEST CIRCUIT
PWM DAC
R-STRING DAC
LEVEL SHIFT DAC
CH1 LATCH
CH2 LATCH
3
9
1
4
16

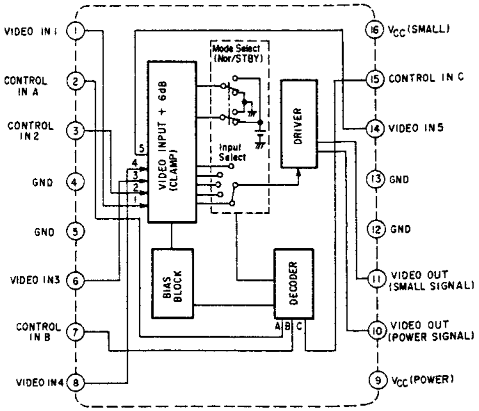
NJM78L05A : IC8610



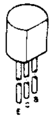

INPUT 3
1 OUTPUT
2
GND

HA11513 : IC9801

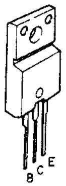

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16


VIDEO IN1 1
CONTROL IN A 2
CONTROL IN2 3
GND 4
GND 5
VIDEO IN3 6
CONTROL IN B 7
VIDEO IN4 8
16 V_{CC} (SMALL)
15 CONTROL IN C
14 VIDEO IN5
13 GND
12 GND
11 VIDEO OUT (SMALL SIGNAL)
10 VIDEO OUT (POWER SIGNAL)
9 V_{CC} (POWER)
VIDEO INPUT + 6dB (CLAMP)
Mode Select (Nor/STBY)
Input Select
DRIVER
BIAS BLOCK
DECODER
A B C
1
2
3
4
5

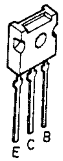
2SA970 : Q7101, 7102, 7109, 7110
2SC2240 : Q7103, 7104, 7111, 7112
2SC2120 : Q8601, 8602, 8603
2SA1015 : Q8604
2SD1302 : Q8607, 8608, 8609, 8610
2SC1740 : Q8611, 9801, 9802, 9805
2SA933A : Q9804



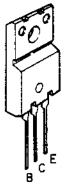
2SB1258 : Q7105, 7106
2SD1785 : Q7107, 7108



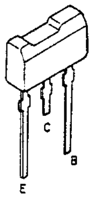
2SC3964 : Q7113, 7114
2SA1360 : Q8101

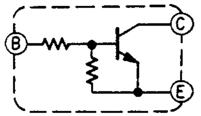


2SA1673 : Q7115, 7116
2SC4388 : Q7117, 7118



DTC114EL : Q8605





DTA114EL : Q8606